THIS MONTH'S COVER

Aerosols were displayed prominently at the National Housewares Mfrs. Exhibit, held July 8-12 in Atlantic City, N. J. The cover photo shows displays of Stalfort and Plasti-Kote. Others appear on page 30.

AUGUST 1957 **VOL. 2, No. 8**

AEROSOL AGE

The magazine of pressure packaging

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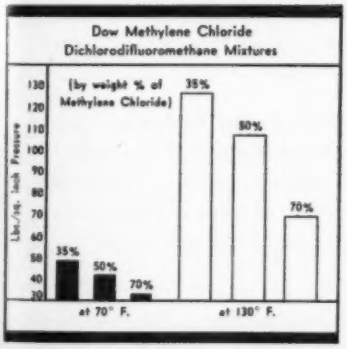
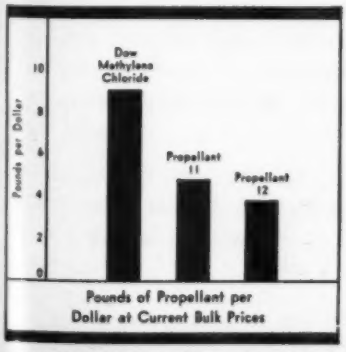
you can put your company in a favorable cost position for the competitive months to come by using Dow Methylene Chloride as a propellant component for aerosols.

cut ingredient costs with

Dow Methylene Chloride



PRESSURE DEPRESSANT characteristics of Dow Methylene Chloride provide flexibility and efficiency to meet the requirements of most aerosol formulations.



LOWER INGREDIENT COST is another important advantage. Dow Methylene Chloride costs only about half as much as trichlorofluoromethane, yet offers superior solvent qualities.

Improved solvency for active ingredients . . . less costly as a pressure depressant, Dow Methylene Chloride does a better job for less

As a pressure depressant replacing trichlorofluoromethane, low-cost Dow Methylene Chloride permits substantial savings in ingredient and formulation costs. It is also a superior solvent, combining effectively with dichlorodifluoromethane to provide constant, uniform and complete dispersion of the active ingredients. In DDT insecticide formulations, for example, its use eliminates specialty naphthas, which have objectionable odors, and reduces the hazard of surface corrosion on wall tile and other types of surfaces.

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YOU CAN DEPEND ON DOW

BRICKBATS and BOUQUETS from the MAILBAG

To the Editor:

I have been reading your magazine for almost a year, and it has done much to awaken my enthusiasm for becoming a member of the aerosol filling "family." Toward fulfilling this wish, I intend to establish an aerosol filling company in Cuba. Since your magazine is the best information source in this field, I am writing to you for help in securing the names and addresses of the companies that specialize in selling machinery and equipment for aerosol filling.

Juan H. Luis
110 #310 (ALTOS) MIRAMAR
Havana, Cuba

Senor Luis has been furnished with a list of suppliers of aerosol filling equipment in the U.S.

To the Editor:

I am mailing a renewal of my subscription to *Aerosol Age*.

Incidentally, credit where credit is due —I have seldom, if ever, received industry publications that were as helpful, complete, and as up to date as your issues of *Aerosol Age*. You are to be commended for the service you perform for the aerosol industry.

J. D. Greek
MIRACLE POWER DIVISION
THE AP PARTS CORP.
Toledo, Ohio

To the Editor:

We are importers for various industries such as laboratories for medicinal specialties, beauty products, chemical specialties, etc. Many of our clients are much interested in details, folders and samples of aerosols—in other words, all of the material needed to go into the sale of a general line of aerosol products, because in this country aerosols have not yet really been launched on the domestic market.

We also desire to receive price quotations and descriptive folders for the following:

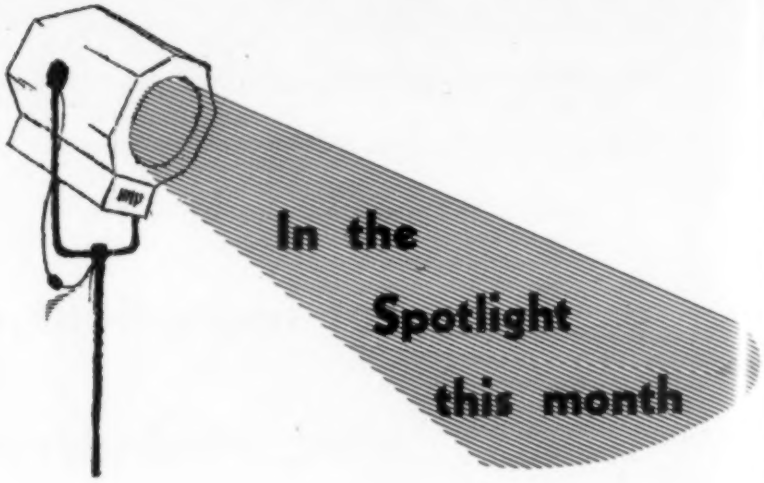
Equipment for automatically painting containers of tin or aluminum.

Machines for printing one, two or three colors on containers of tin or aluminum by the offset process.

We shall appreciate it also if you will enter our subscription to Aerosol Age.

Jose Celestino Gourdy
Buenos Aires, Argentina

We have supplied the names of several firms manufacturing metal decorating equipment. Readers of Aerosol Age interested in opening up new markets for their aerosol products in Argentina are invited to send descriptive folders and prices.



● **Aerosols in Great Britain** . . . A concise article on the current status of the industry in Great Britain, Europe's leading country in aerosol volume, appears on page 12.

● **The Pressurized Fuel Package** . . . Insta-Products' fuel package wins attention as the multi-purpose aerosol. Photos and story on page 16.

● **Surveys Reveal Preference for Aerosol Perfumes, Colognes** . . . Robert Mattair, DuPont Polychemicals, in an exclusive story beginning on page 18, summarizes the findings of two DuPont surveys revealing a strong preference for aerosols, and a willingness by the consumer to pay extra for the aerosol convenience.

● **A New Method of Measuring Particle Size** . . . A new device and method of evaluating and measuring aerosol particle size is described by Morris Root, G. Barr research director, beginning on page 21.

● **Strip Casting Aluminum** . . . The "white metal," so much in the news these days as an aerosol container material, may be considerably cheaper as the result of a new method of strip casting perfected by a Connecticut firm, and described on page 24.

● **Fill Your Own or Use a Custom Filler?** . . . The oft-recurring question for everyone entering the aerosol field is answered by three more top men in the industry. Second installment of the survey begins on page 28.

● **Housewares Show in Atlantic City** . . . Aerosols receive a good share of attention at huge exhibition. Picture story appears on page 30.

● **A New Pet Product Hits the Market** . . . Guardian Industries, Inc., a relatively new company, gets a pleasant case of "aerosol fever," has a completely new package especially designed, and sets out—in a matter of months—to capture a major share of the pet product market. Story and picture of new product line on page 31.

EDITORIALS

The Pharmaceutical Symposium

On August 20, in Philadelphia, an important event in the aerosol industry will occur. A special "Aerosol Symposium for the Pharmaceutical Industry," organized and sponsored by the Philadelphia College of Pharmacy and Science, is to be held at the college as a means of informing the pharmaceutical industry of the importance and future potential of aerosols in pharmaceutical applications.

Though we haven't made it a practice to give out many plaudits here, Dr. Martin Barr (who is responsible for getting the symposium from the idea to the practical stage) and the administration of the college are to be highly commended for enabling the aerosol industry to at last have an opportunity to sell its idea to the pharmaceutical industry. Too often in the past our industry has missed the boat at conventions of the American Pharmaceutical Manufacturers Association, the American Medical Association, and so many similar groups that *could* make such good use of the aerosol principle. The talks and papers presented before these groups, usually delivered by people who too often have no real concept of the tremendous potential for aerosols, rarely contain more than incidental mention of the pressurized package — and of what it can mean for the sales and development of literally thousands of different pharmaceutical applications.

The experts tell us that, to this date, there have been about 100 different pharmaceutical aerosols developed and marketed — as compared with about half that number at the end of 1956. To say we have scratched the surface is an understatement, and this phenomenal growth during the first seven months of 1957 is something of an indication of how far the aerosol product can go in pharmaceuticals once the "message" is delivered into the right hands.

As far as we know, the Philadelphia College symposium is the first such gathering in which aerosol industry speakers will comprise the major part of the program, and will have the opportunity to detail the hows, the whys, and the wherefores of getting a pressurized product through the developmental and production stages, and ready for consumer marketing. Pharmaceutical research personnel and policy-making executives, who *should* know about aerosols, will be on hand.

Dr. Barr is to be further commended for selecting some of the top speakers in the aerosol field for his program. What they will have to say will be extremely important to the entire aerosol industry, even though it is naturally aimed specifically at the pharmaceutical field.

It would be difficult for anyone to find fault with the Philadelphia symposium, and far be it for us or anyone else to try. But, from one standpoint, it is a shame that the impetus and the planning for this noteworthy effort had to come from outside the aerosol industry.

This and similar symposia for the food, paint, cosmetic and toiletry, perfume, and other fields that could make use of the aerosol principle are long overdue. In all these fields (as well as in the drug field) there are still far too many persons in positions of responsibility in top firms, who are aware of aerosols only as insecticides, hair sprays, or shave creams. In all these fields, too, the surface has been merely stirred slightly, and the vast market potential for an aerosol "conversion" on a large scale remains relatively untouched.

During the coming months, more strenuous efforts should be made to "plant" aerosol speakers

(*Continued on Page* 65)

Aerosols In Great

ALTHOUGH the aerosol industry in Great Britain did not get under way with any real momentum until 1950, sales figures for the last three years show steady progress. As can be seen from Diagram I, sales have increased from a half million units in 1950 to eight million units in 1956, and are expected to exceed 12 million units in the current (1957) season. The cold summer of last year undoubtedly had an adverse effect on sales, since at that time insecticidal packages constituted more than half of the total number of dispensers packed. This lesson has not been forgotten and earnest attempts are being made to increase the packing and subsequent sales of pressurized air fresheners which, on account of their all-the-year-round appeal, will undoubtedly make the industry less dependent on climatic conditions. Companies which are normally associated only with insecticides have begun to produce air fresheners, as well as germicides, within the last year; and in one instance the packing of a nasal decongestant has represented a deviation into the pharmaceutical field. The majority of air fresheners now on the market are in reality odorized glycol sprays.

Insecticidal packs comprise mainly flying insect killers, mothproofers, residual insecticidal sprays, and woodworm killers for domestic and similar applications. There are also a smaller number of special veterinary insecticidal packs for spraying livestock, poultry, and cage birds. D.D.T., methoxychlor, and lindane (together with synergized pyrethrins) are used in the main for space sprays.

For residual sprays chlordane and dieldrin, as well as D.D.T., are often employed and Strobane is gaining popularity in mothproofers. Formulations are likely to become more varied with the increased availability of such relatively new insecticidal ingredients as Perthane, Allethrin, Lethane, MGK synergist 264 and MGK repellent 11.

Two brands of shaving creams did not do at all well when first introduced to the British public in the autumn of 1954, although both had been successfully sold in the U.S.A. (where the names of the two manufacturers have recently figured very prominently in patent litigation). The British public's reluctance to accept the pressurized shaving creams might possibly be explained by their general preference for the shaving stick over the brushless cream, quite apart from any price considerations.

In spite of these early set-backs another well known cosmetic house has recently introduced a third shaving cream which is now proving to be an excellent seller and has in turn led to a comeback by one of the shaving creams referred to above. There is no doubt that clever and intensive advertising on television and in the cinemas has led to the reversal of the earlier trend. Television advertising has, of course, been possible only since the autumn of 1955 and even today does not give complete population coverage.

It is interesting to record that there are two British patents concerned with aerosol foam products. British Patent 719,647 by Colgate-Palmolive-Peet Co. of New Jersey (complete specification published 8/12/54) deals with shaving creams, while British Patent 748,411, by J. G. Spitzer of New York (complete specification published 2/5/56) concerns itself with aerosol detergent lathers. It is worthy of note that the Colgate patent, recently held to be invalid by U. S. Supreme Court, has date pri-

Britain

by A. HERZKA, B.Sc., A.R.I.C.
The Metal Box Co., Ltd.
London W.3, England

Nobecutane—Plastic Dressing (Evans Medical Supplies Ltd.)	MA. Sv.
Fungical spray (Walter Gregory & Co., Ltd.)	MT. Pv.
Chloromycetin tincture (Parke, Davis & Co.)	MT. Pv.
Polybactrin (Calmic Ltd.)	Glass Gv.
Magnet fly spray (Boots Pure Drug Co. Ltd.)	MT. Pv.
Flymist (Rodmill Chemical Co., Ltd.)	MA. Pv.
Antimate (Bob Martin, Ltd.)	MT. Pv.
Secto fly spray (Setco Co., Ltd.)	MA. Pv.
Floret (Ulter (Bradford) Ltd.)	MA. Pv.
Airwick (Airwick Ltd.)	MT. Pv.
Space (Racasan Ltd.)	MA. Pv.
Flit Air fresheners (Esso Petroleum Co., Ltd.)	MT. Pv.
Spraytan (Fassett & Johnson Ltd.)	MT. Pv.
Lazyshave (Max Factor Ltd.)	LA. Pv.
Tan spray (Innoxa Ltd.)	MA. Pv.
Satin Set Hair Lacquer (Revlon International Corp.)	MT. Pv.
Aerozene lubricating oil (Amber Oils Ltd.)	MA. Pv.
Metaguard chromeprotector (Metamet (Accessories) Ltd.)	MT. Pv.
Hyspin 40 Hollerith Lubricant (Wakefield-Dick Industrial Oils Ltd.)	MT. Pv.
Zonc Oven Cleaner (Sparklets Ltd.)	MT. Vv.
Timb-aire Wood Preservative (Cooper, McDougall & Robertson Ltd.)	MT. Pv*
Black Lacquer (Thos. Parsons & Sons Ltd.)	MT. Sv.

MT—Metal Box Co. Ltd. Tinplate Dispenser.
MA—Metal Box Co. Ltd. Aluminum Dispenser.
LA—London Aluminum (Containers) Ltd. Aluminum Dispenser.
Pv.—Precision valve.
PV*—Precision valve with special nozzle (Pat. applied for).
Sv.—Safca valve.
Gv.—Vapsol valve.
Vv.—V.C.A. valve.

HAIR lacquers are undoubtedly the most popular cosmetic aerosol product in Britain,, with most brands being packed in tinplate dispensers. One particular brand has been packed consistently in aluminum dispensers, although when they were first marketed over three years ago considerable difficulties were experienced. The formulations used are either shellac or P.V.P.-based, and the P.V.P. is now being manufactured here, with additional supplies available from Germany. Among the common additives are castor oil, propylene glycols, lanolin derivatives and silicone fluids. Ethyl alcohol is the solvent generally used, with dichlorodifluoromethane and trichloromonofluoromethane mixtures as propellants. Suntan preparations and perfumes are other examples of pressure dispensed cosmetics.

Another British patent No. 762,405 granted recently to Zonite Products Corp. of New Jersey (Chemway Corp.), claims all pressurized alcoholic compositions having pressures lower than 25 p.s.i.g. at 70°F. with the propellant amounting up to 50% by weight of the total pack. Publication of this specification last November was the cause of a lot of heartache among British perfumers and packers of toilet waters.

Pharmaceutical and veterinary preparations have been marketed for some time. They include a plastic bandage spray, packed in a metal dispenser with an all-metal valve; a hydrocortisone spray and an antibiotic powder spray, both packed in plastic-coated glass dispensers; antibiotic sprays for veterinary use; and surface anaesthetics. Apart from the two products in plastic-coated glass, all products of this type are packed in metal dispensers.

Pigmented paints and transparent chrome protectors, the latter based chiefly on acrylic resins, are being marketed in increasing numbers. No paint removers have been packaged as yet, in spite of the obvious advantages of the aerosol method over the conventional method of application.

Lubricating oils, rust removers and easing fluids packed in pressurized dispensers are proving a boon to the "do-it-yourself" motorist and to the housewife, and there is little doubt that they are the vanguard of many similar products.

Industrial concerns too have not been slow in recognizing the benefits of pressurized packing; and various

products such as mould release agents, flaw detection inks, belt lubricants and touch-up lacquers are packed in this manner without being offered to the general public.

Food products have not yet made their appearance in pressurized dispensers, although various large concerns have such developments under active consideration. One of the principal difficulties facing the manufacturer over here is the fact that refrigerators are not as widely used in the British as in the North American household, so that a shelf life at normal temperature storage, longer than is at present the case in the U.S.A., would be required for the pressurized food product.

It is anticipated that pharmaceuticals, foods, fire extinguishers, automotive accessories, glass cleaners and other domestic products will figure to a large extent in the next expansionist period.

Containers

Until just over two years ago all pressurized packages utilized impact extruded aluminum dispensers, and the expansion of aerosol sales in this country was undoubtedly retarded by the corrosion hazards associated with the use of such dispensers. With the advent of the three-piece tinplate dispensers, with soldered side seams, the position changed very radically and today about 80% of the total number of units packed utilize the tinplate dispenser, all of which are supplied by one manufacturer. At the moment, these tinplate dispensers are available in only two sizes with nominal capacities of six and 12 ounces. Aluminum extrusions are available in four sizes, the capacities ranging from four to 20 ounces and for these there are four different suppliers. Nearly all dispensers are provided with the standard one-inch opening.

Glass aerosol bottles have also become available within the last two years, and it is to the credit of the industry in this country that the danger inherent to the marketing of unprotected glass aerosols was recognized at an early stage. In fact, with the exception of one firm, no contract packer is prepared to handle unprotected glass dispensers, and the leading British valve manufacturer will not supply the valves unless protected glass aerosols are used. This is an instance where British practice is ahead of that prevalent in the American aerosol industry.

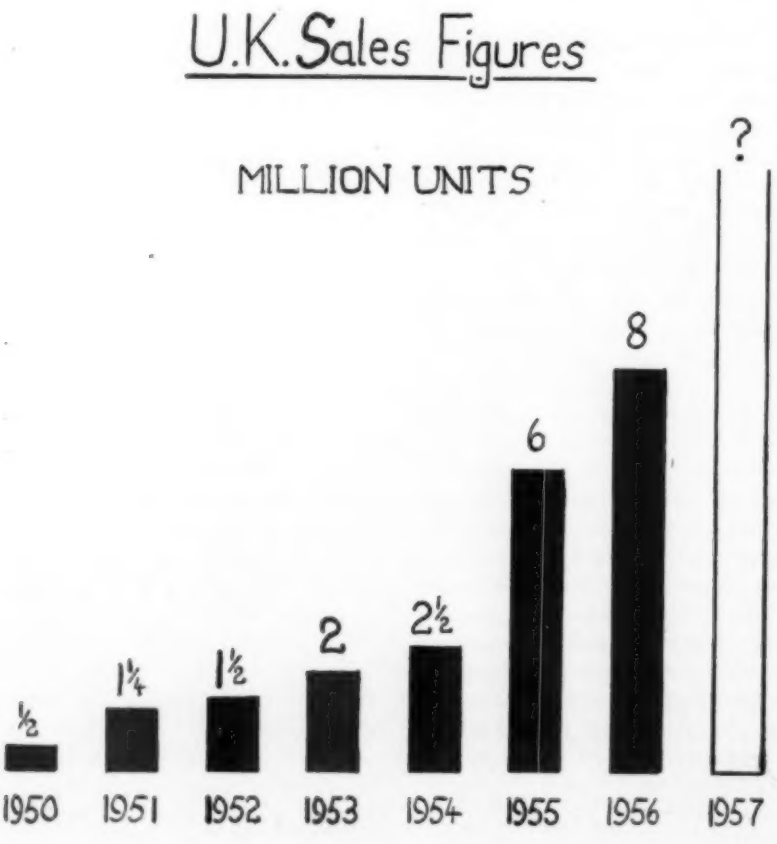
At the moment, all of the protected glass aerosol dispensers marketed in Great Britain are coated with PVC, a process which is ably carried out by one firm. It is customary for the packer to perforate the plastic coating in a number of places subsequent to filling to ensure the escape of the propellant gas in the event of breakage. Difficulties experienced recently in effecting a satisfactory seal between the valve and the plastic coating were traced to the design of the neck contour in the British manufactured glass aerosol dispenser. The main supplier is now producing a new mould incorporating certain modifications designed to overcome this defect.

A few years ago glass dispensers containing cosmetic packs and protected by metallic outer containers were marketed, but this type of protective cover does not appear to be generally favored at the moment.

Samples of blown plastic dispensers were displayed at the recent Packaging Exhibition, and it is known that the development of other plastic dispensers is also in progress.

Valves

Most of the valves in use at the moment are of U. S. origin. The Precision valve, manufactured in Great Britain under license, is the valve most popularly used. Other valves, of U. S. origin, now available in this country are the Risdon, the V.C.A. and Aerosol Research's K.30. The all-metal SAFCA valve, suitable for paints and similar products, (which is of French origin) is also being manufactured over here. In addition small quantities of Vapsol valves are being imported from Italy. All these valves are of the conventional type for use with space or surface sprays and with foam packs.



Metering valves are not yet available, though a pharmaceutical concern is reputed to hold the manufacturing rights for one of the U. S. metering valves. As the number of pharmaceutical packs increases, these valves will appear of necessity.

The only re-usable valve available at the moment is imported from Italy. The glass dispensers to which these are generally fitted, are provided with screw necks. On exhaustion of the contents, the valve is unscrewed and the dispenser is discarded. The valve which is provided with a puncturing pin is re-used on the refill, an identical glass dispenser closed with an aluminum overseal which is pierced as the valve is screwed down. One of the disadvantages of this particular valve is the danger that the valve might be unscrewed (and there is no physical impediment to doing this) before the dispenser is empty. Another disadvantage is its price. In the case of a particular toilet water the cost of the valve as represented by the difference between the complete pack and the refill, amounted to one-third of the cost of the complete package, in itself not a cheap product.

Valves with break-up spray buttons for use with three-phase systems are just beginning to appear on the market.

Another modification of a conventional valve, an applicator for woodworm killer, has recently made its appearance (British Patent Application 1107/56). A plastic delivery tube connects a metal nozzle with the spray button which is operated in the normal manner after pressing the nozzle firmly into the flight holes, by means of the rubber guard shield provided for this purpose.

With the exception of the Safca valves, all valves for metal dispensers are fitted into the standard 1" mounting cups which may be lacquered internally and/or externally. At the moment rubber grommets are used, but flowed-in gaskets similar to those used in the U. S. A. are likely to be available soon. Th majority of the valve gaskets used are also of British origin.

Filling

There are six contract fillers in Great Britain, of whom five handle all types of valves, containers and products. Half of the contract packers fill their own branded products in addition to acting as contract fillers.

Although most of the concerns are equipped for low temperature (cold) or pressure (injection) filling, cold filling is the method most widely employed. The filling equipment used is either built to the filler's own designs or imported from abroad, often from the U. S. A. Until very recently the only sources in Europe for pressure filling equipment were one German and two Swiss firms, and their equipment was very expensive. Now, however, a British manufacturer is able to supply pressure filling units almost immediately. This equipment is not only reasonable in cost but as efficient as any manufactured in the U. S. A. or Europe. It is expected that this same firm will be in a position to supply complete cold filling units in the near future. In spite of these apparent difficulties with the supply of equipment, one or two of the British contract fillers have plants which are second to none in Europe and probably as good as the best equipped filling plants in the U. S. A.

In general, the larger manufacturer tends to entrust the packing of his products to the contract packers, at least initially, and where there is a link with an American branch, the practice of the latter is invariably followed to the most minute degree. Thus it is sometimes observed that attempts are made to observe standards laid down in America which the American firms themselves ignore. Pharmaceutical firms tend to carry out their own packaging because of the desire to keep a close watch on sterility, and when food aerosols appear, they will undoubtedly have to be packed at source because none of the contract packers is either willing or able to pack food products at the moment.

There are a number of smaller concerns, particularly in Northern England, with a tendency to carry out their own filling. Where this occurs simple equipment, rarely larger than found in a normal laboratory, is employed, and cold filling is invariably carried out. Improvements in these somewhat primitive plants will undoubtedly follow with the availability of the British pressure filling equipment referred to previously.

Propellants

There are two manufacturers of chlorofluorohydrocarbons in Great Britain and propellants are also being imported from Italy and the U. S. A. The following tables gives a concise indication of the propellants available.

Table I

CHEMICAL NAME	TRADE NAMES
Trichloromonofluoromethane	"Algofrene" 1 "Arcton" 9 "Isceon" 131
Dichlorodifluoromethane	"Algofrene" 2 "Arcton" 6 "Freon" 12 "Isceon" 122
Dichloromonofluoromethane	"Arcton" 7
Monochlorodifluoromethane	"Arcton" 4
Trichlorotrifluoroethane	"Arcton" 63 "Freon" 113
Dichlorotetrafluoroethane	"Arcton" 33 "Freon" 114 "Isceon" 224

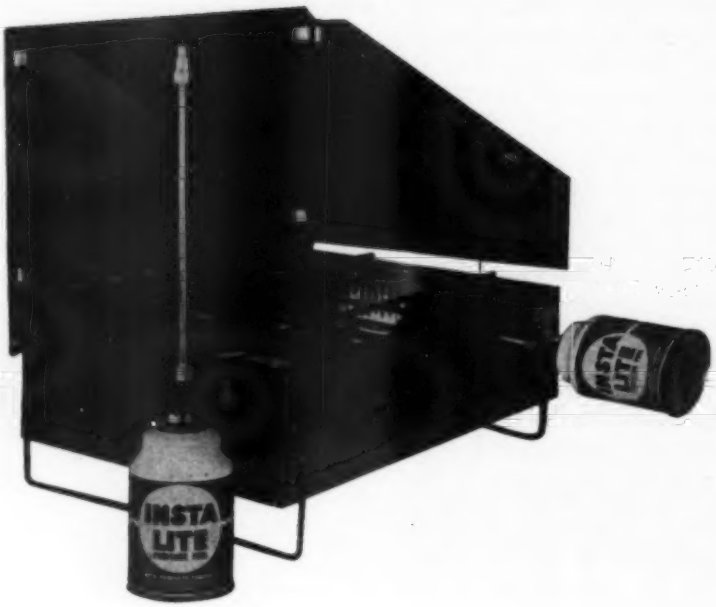
Table II

REG. TRADE NAMES	MANUFACTURERS
"Algofrene"	Montecatini SA, Milan, Italy
"Arcton"	Imperial Chemical Industries Ltd., London, S.W.1.
"Freon"	E. I. Du Pont de Nemours & Co., Inc., Wilmington, U.S.A.
"Isceon"	Imperial Smelting Corporation Ltd., London, W.1.

The importation of "Algofrene 1" is restricted to its mixtures with "Algofrene 2" and that of "Freon 12" to its mixtures with "Freon 114."

The fact that propellants are now available from four different sources (including the imported material) is in itself a further indication of the fast development of the aerosol industry, because imports are sanctioned only where the local suppliers are unable to meet the demand. The high price of the chlorofluorohydro-

(*Continued on Page* 60)



The uses for Insta-Products' pressurized fuel package include (left to right) a camp stove, a blow torch, a patio lamp, a "fireball" charcoal lighter, a table lantern, and a professional

the Pressurized Fuel Package

the "multi-purpose" aerosol comes of age

THE single aerosol product that can claim the widest variety of uses is undoubtedly "Insta Lite", a recent product developed by Insta-Products Co. Division of Knapp-Monarch Co., St. Louis. A butane blend fuel, it is packed under pressure in a Crown container and when fitted with the various utility connections designed by the company can be used as a barbecue lighter, a patio light, portable stove fuel, and a blow-torch unit.

With the product Insta-Products is banking heavily on the vast new market that has suddenly opened up for portable lighting and cooking units as a result of the interest in the U. S. in leisure and outdoor living.

The company's butane fuel mixture burns with a quick odorless flame, which for the outdoor cooker, eliminates often tedious pumping, priming, filling, or spilling of ordinary can-packaged primer fluids. Also, these conventional barbecue primers, if accidentally used in too large quantities, can flame up dangerously. Though actually a torch-type lighter,

torch kit with multiple attachments. The butane fuel packages are sold usually with each apparatus kit, and retail singly at 59 cents each. Insta-Products is marketing its new product line through department, hardware and sports stores on a national basis.

while most others are foams or liquids, "Insta-Lite," when equipped with the company's special long throated lighting device, seems to offer the user a relatively safe, efficient method. The feed control may be set for a low flame setting (for normal usage after the charcoal has been deposited in the barbecue bowl) or at a "high" flame setting if a "fire-ball" effect is desired.

To convert the fuel package into an outdoor lighting unit, Insta-Products has developed two separate devices: a "Deluxe Yard and Patio Light" and a smaller "Patio Diner's Light".) The first of these is somewhat higher than a table lamp, (about 63 inches) and can be either stuck into the ground or set up on a flagstone or concrete patio surface. The other looks much like a ship's lantern, and is designed for setting on a table. According to the company, the fuel package will give a steady flame (under normal climatic conditions) for a period of seven hours — and with illumination equal to a 100 watt incandescent bulb.

For cooking on picnics, camping trips, and in homes during power failure, the company is marketing one and two-burner stoves. Each is equipped with folding windshields for faster cooking and wind protection outdoors, and comes in a portable carrying case. The two-burner model provides a cooking surface 20 inches by 9 and ¾ inches.

The company is particularly high on these stoves and a similar "Conversion Burner Unit", which it has developed to make possible the conversion of any given gasoline stove to pressurized fuel. James T. Culp, Insta-Products director of sales, points out that "white gasoline, which is the fuel used most in gasoline stoves, is becoming increasingly hard to get in most areas of the U. S., and in most cases it sells anywhere from 38¢ to as high as 55¢ per gallon (when it can be obtained). Therefore people are naturally interested in some other type of fuel which they can use in their gasoline stoves. Our "Conversion Burner" unit makes it possible to convert any gasoline stove, without tools or anything else in less than a minute, for a total cost of $3.95 (including one can of fuel)."

The torch, too, comes in two models, the "Leader Blow Torch" and the "Insta-Lite Professional Torch Kit". The first is being sold with a can of pressure fuel and a general utility burner tip, which can be used for soldering, paint removing, auto body work, and a variety of other uses.

The kit includes a diamond-point soldering tip, a heavy-duty burner, a pencil-point burner, and a flame spreader, in addition to the fuel package. The butane fuel burns with a steady flame at a temperature of more than 2000°F., even when held upside down.

As might be expected, Insta-Products is extremely optimistic about the future of its all-purpose pressurized product. With its safety advantage over other conventional types of fuels, plus its user handiness and modest cost, sales are expected to keep pace with the growing trend toward outdoor living.★

DuPont Surveys Indicate...

Consumer Will Pay

THE question of whether the consumer is ready for such personal products as colognes and deodorants packaged in aerosol containers was recently examined in separate studies conducted by two of America's most respected consumer research organizations. Results indicate that the consumer is not only ready, but eager, to accept this type of packaging for these so-called "luxury items" and will readily pay premium prices for the added convenience.

Taken together, the surveys indicate the spread of aerosol acceptance from utilitarian products to those in the esthetic category, and point up the motivating factors which make this acceptance possible.

Primarily Mrs. Consumer . . . and her husband . . . want containers for colognes, deodorants, after-shave lotions, and similar products, which are unbreakable, suitable for traveling, and yet attractive enough to be displayed prominently on dressing table or bathroom shelf.

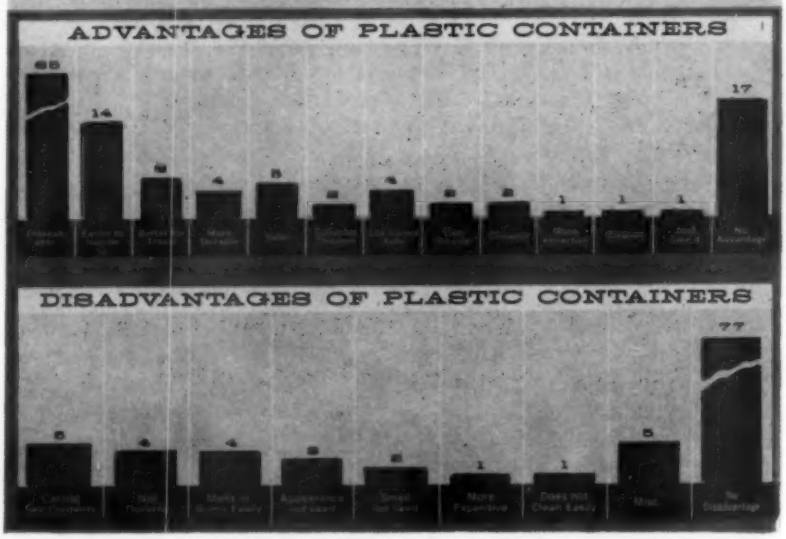
The fact that consumers are sometimes dissatisfied with present materials used for packaging luxury liquids was revealed in the most recent of the two studies mentioned — a nationwide survey by Alfred Politz Research, Inc.

IN THIS survey it is reported that consumers expressed considerable dissatisfaction with containers of one material now widely used because it was "easily broken," "unsafe for children," "inconvenient for travel," "hard to handle," and "hard to dispose of." Only 23% of the men and women responding to the survey said there was "no disadvantage."

On the other hand, only a relatively small percentage criticized plastic containers. Indeed, some 77% of the respondents could not cite any "disadvantage" in plastic packaging for products such as hand lotion, colognes, after-shave lotion, or hair tonic.

In addition to these findings, it must be recognized that the eye-appeal of the plastic package has a definite effect on sales of liquid products intended for personal use. Greater safety or greater convenience are important factors in consumer acceptance of packaging for house-

FIGURE I.



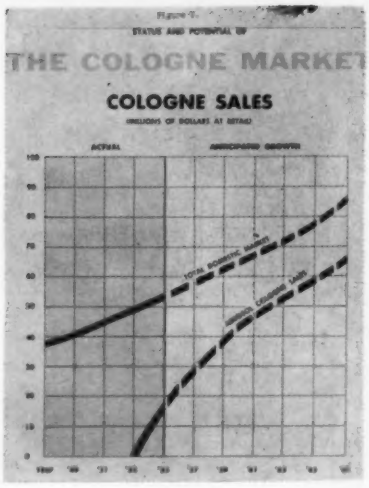
The preceding questions do not relate specifically to aerosols, but instead concern consumer reaction to the use of glass versus plastic in any type of containers for personal products.

The results show that people favor plastic for this use, by a large margin, as well as why they favor it. Thus, 66% could see no advantage in the use of glass, whereas 68% recognized a major disadvantage in its fragility. On the other hand, only 17% could see no advantage for plastic, but 65% considered its TOUGHNESS an advantage. In addition, 77% of the respondents saw NO DISADVANTAGE FOR PLASTIC containers while only 23% saw no disadvantage for glass.

* Responses are given in per cent, rounded off to nearest whole number. Totals exceed 100 per cent because some respondents gave more than one answer.

Premium Price for Aerosols

By Robert Mattair
Plastics Sales Division, Polychemicals Dept.
E. I. du Pont de Nemours & Co., Inc.



hold products such as insecticides, but experience teaches us that in the field of luxury items, the "glamour" of the container is also very important.

With the development of "Zytel" nylon resin by Du Pont, beauty enters the aerosol picture, opening up new sales horizons for manufacturers of personal products who can now capitalize on the combined features of such packaging. Of special significance is the fact that women (and men too) are apparently willing to pay a premium to obtain the added convenience of aerosol packaging, provided the esthetic appeal of conventional containers is not sacrificed.

IN THE cologne field, for example, it was found that seven out of ten women who have tried aerosol packaging prefer it to other types. This figure, from the earlier of the two studies referred to (conducted by Daniel Starch & Staff), is based on such recognized advantages as "easy to use", "no waste", "not messy", and the frequently re-occuring comment in both surveys that aerosol containers are "unbreakable, do not spill, and are good for travel."

The Politz study carried this subject even further, and asked if men and women would pay either a 15-cent or 30-cent premium for personal products in aerosol containers of a rigid, eye-appealing, non-breakable plastic, such as "Zytel" nylon resin.

More than half the women who purchased cologne in any form said they would make at least a test purchase of toilet water in an aerosol container at the 15-cent premium, and a substantial 43 per cent said

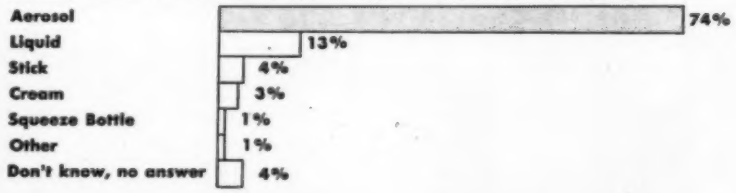
Figure II.

CONSUMER PREFERENCES

FOR COLOGNE PACKAGING

DO YOU PREFER AEROSOL OR SOME OTHER FORM OF PACKAGE?

(Percentages based on women interviewed who have used colognes and toilet waters in an aerosol package.)



REASONS FOR AEROSOL PREFERENCE

If you prefer aerosols, what is the reason for your preference?

(Percentages based on women interviewed who have used colognes and toilet waters in an aerosol package.)

Easy to use, apply	58%
Practical, no waste, doesn't evaporate	23%
Not messy, neat to use	19%
Unbreakable; does not spill (good for travel)	10%
Scent clings, lasts longer	7%
Covers larger area quicker	5%
Other	9%
Not stated	2%

OBJECTIONS TO AEROSOLS

If you do not prefer aerosols what are your objections?

(Percentages based on women interviewed who prefer other types of packaging to aerosols.)

Messy to use	22%
Evaporates too fast, does not last as long as other types	22%
Difficult to use; cannot control spray	14%
Too much is wasted in application	8%
Doesn't look pretty, not attractive packaging	5%
Aerosols don't last, break easily, become useless	5%
Not good for travel (doesn't pack easily)	5%
No objections to aerosols, just prefer others	16%
Other	16%
Not stated	3%

NOTE: *Only main reasons are given. Totals exceed 100% because some respondents gave more than one answer.*

COMMENT:

The most striking fact that emerges from this study is the high degree of consumer preference for colognes and toilet waters in aerosol form once they have been tried. Results show a three-to-one preference for aerosols over all other forms of packaging combined among women who have tried them. Reasons for preference show a majority of respondents prefer aerosols for the convenience features they offer. Analysis of objections shows many misconceptions about aerosols and points up the need to educate the consumer in the use of aerosols at the time of purchase.

Figure III

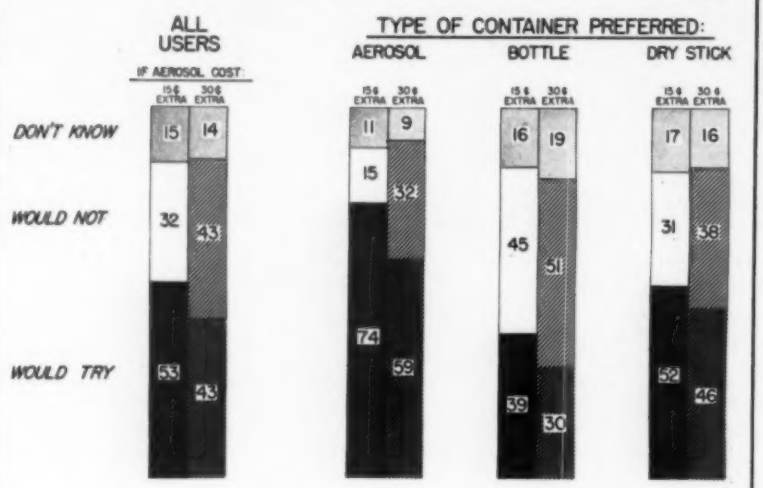
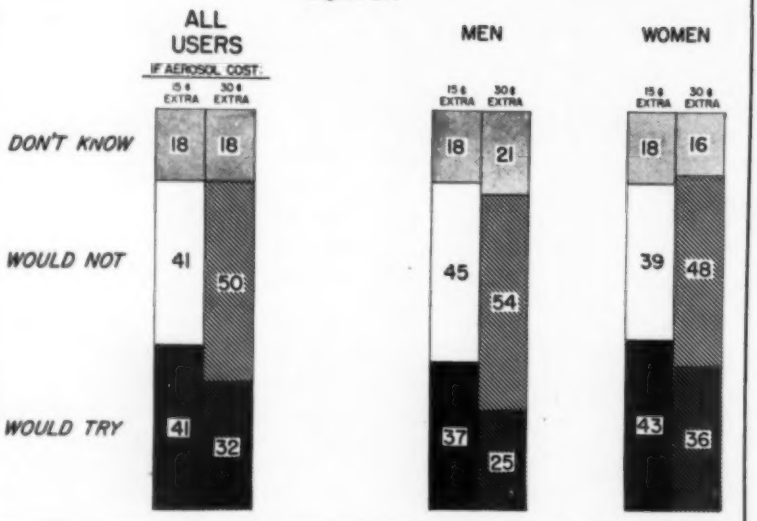


Figure IV.



they would not be discouraged by the 30-cent "extra charge." Even more significant, however, is the fact that 74% of those who already prefer aerosol containers reported they would be willing to pay a 15-cent premium, and 59% okayed a 30-cent premium. In regard to a product widely used by both men and women — deodorants — the percentage of either sex who would be willing to pay a premium for aerosol packaging is lower, but still substantial enough to offer an attractive market for the progressive manufacturer.

In the specific case of deodorants, it should be borne in mind that the survey results may be affected by a current decline in the popularity of "squeeze bottle" packaging for deodorants. The Politz study found that such packaging has lost ground because women in particular find it "too messy." If the problems of acceptable spray pattern and accurate spray direction in squeeze bottles can be overcome with the use of rigid plastic aerosol containers, the potential for deodorants in such packaging might be far greater than the survey results indicate.

The potential, indeed the actual market for all of the personal products to which aerosol packaging is adaptable, can be summed up as "tremendous . . . and growing!" More than 75% of all American women, for example, use cologne in one form or another. Retail sales totalled more than $50 million in 1955, and are expected to exceed $80 million before another decade has passed. At the present rate of growth (see chart) more than half of the dollar volume will be captured by colognes in aerosol containers by the end of the current year. Producers who recognize and capitalize on this trend seem certain to capture a rapidly growing share of the market.

While market potentials in other categories have not been specifically researched, the results of the Politz study and the known size of the market for such products forecast similar sales opportunities for manufacturers of hand lotions, hair tonics, after-shave lotions, and deodorants. Most important, to those planning to capitalize on such opportunities, is the indication that consumers will pay a premium for aerosol packaging, providing it offers both utility and beauty.★

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CSMA Issues Reservations Call

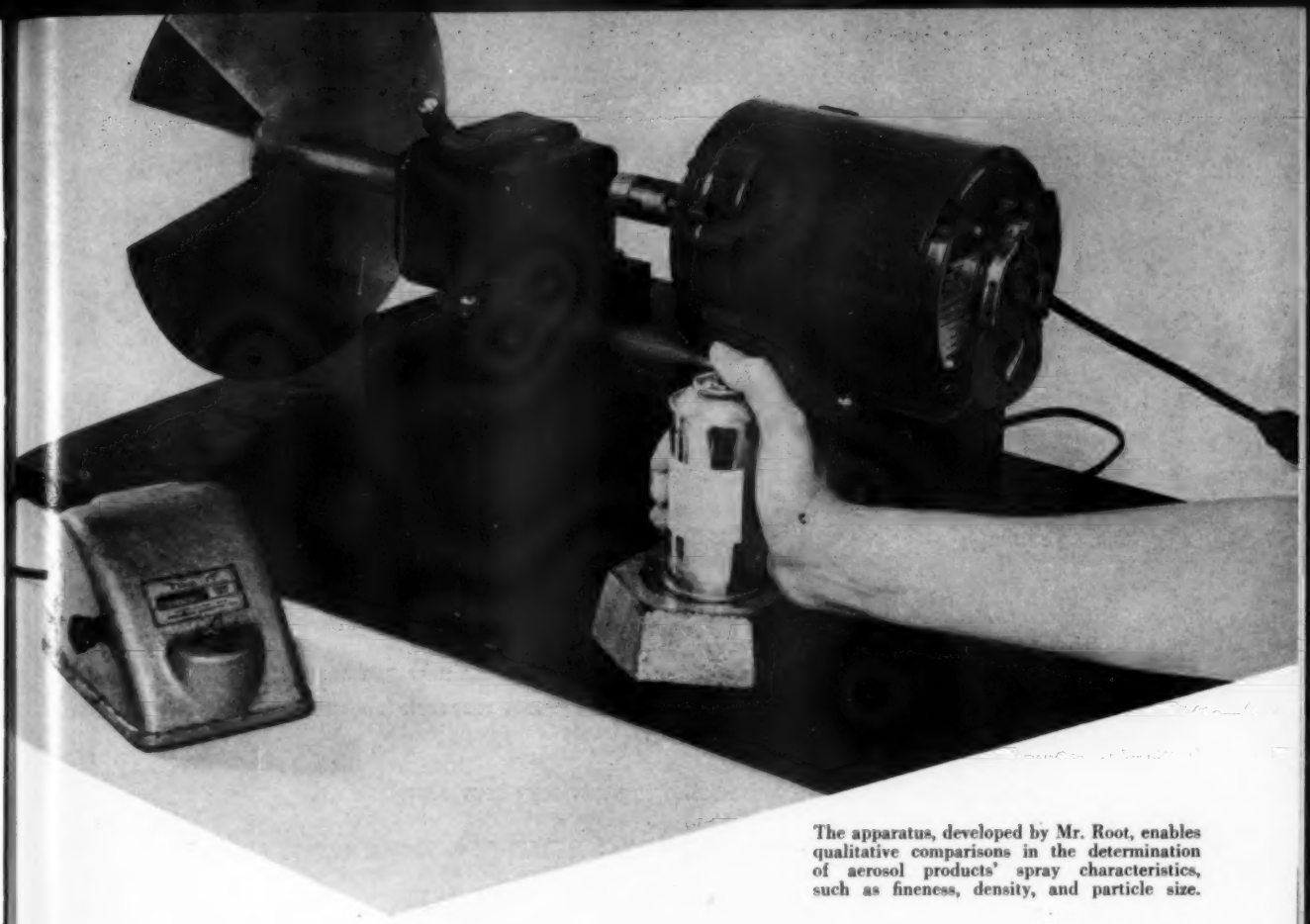
The CSMA has issued a call to members urging them to make reservations for the 44th annual meeting of the association at the Hollywood Beach Hotel, Hollywood, Florida, Dec. 9-12. The call was issued in two separate bulletins in June pointing out that, since space at the hotel is limited, early reservations will be advisable.

Non-members will be unable to make reservations until about Nov. 1.

•

Food Research in N. J.

The Air Reduction Co., which recently completed a multi-million dollar laboratory at Murray Hill, N.J., is performing research studies on use of nitrous oxide as a propellant for an aerosol ketchup bottle. The project is one of a number of aerosol and non-aerosol projects currently being carried out at Murray Hill under the direction of Dr. George V. Slottman, Air Reduction's vice-president in charge of research.



The apparatus, developed by Mr. Root, enables qualitative comparisons in the determination of aerosol products' spray characteristics, such as fineness, density, and particle size.

Measuring *Particle Size*

by Morris J. Root
Technical Director, G. Barr & Company

ALTHOUGH several methods for measuring the particle size of aerosols have been described in contemporary literature, these methods are tedious, time-consuming, require elaborate equipment, or are difficult to carry out. The method described herein is, on the other hand, a simple and quick technique for obtaining qualitative comparison of spray patterns. Furthermore, the equipment required can be assembled for about $150.

The method is based on the impingement of the spray on a piece of paper that has been treated with a dye-talc mixture. A 5% mixture of the dye in talc is brushed onto a 60-pound Vellum paper stock. A small, but known, burst of spray is allowed to impinge upon the treated paper. Wherever the particles strike the paper the dye goes into solution and is absorbed. The size of the dye spots is in direct relation to the size of the liquid particles when they come into contact with the paper. The dye used must be soluble in the spray particles. In the case of alcoholic sprays such as hair lacquers, a water-soluble dye such as DuPont Crystal Violet must be used; in the case of oil soluble sprays such as insecticides, an oil soluble dye for example, Du-Pont Oil Red Powder, must be used.

The apparatus is made up from the following:

1. General Electric A-C Motor Type SKH, Frame 48, 1/6 HP, 1725 RPM, 60 cycle, 115 volts, or equivalent.
2. Variable speed "Zero Max" torque converter, Model 142X, Revco Inc., Minneapolis, Minnesota.
3. One-inch diameter by 4" long connecting rod from torque converter to disc.
4. Rotating Disc made from 1/16" thickness aluminum or stainless steel, 5⅝" radius; cut-out radial sector, 14 cm. at circumference; 15-cm. sliding shutter.
5. Mounting Board.
6. Slot on disc to accept 5" x 5" piece of paper.

In order to know the exact amount of material which is sprayed from the container, it is necessary to know the rate of rotation of the disc, the dimensions of the cut-out sector, and the delivery rate of the valve. The sector must be pie shaped, i.e., the edges must follow the radii of the disc. Using the equation below, it is then possible to calculate exactly how many grams are sprayed through the disc.

(*Continued on Page* 60)

THERE'S NO SUBSTITUTE FOR

Aerosol

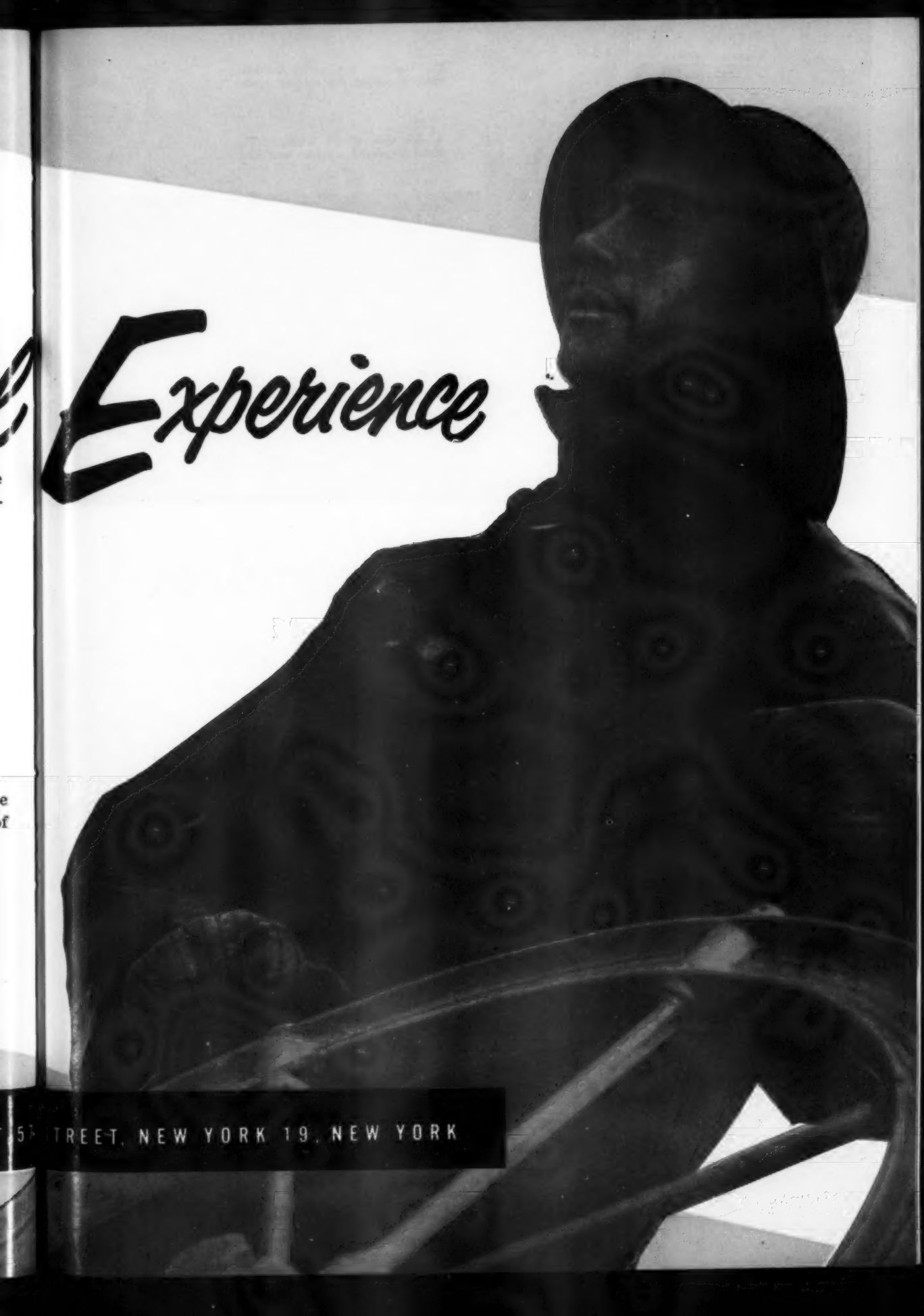
There are a few technical rough spots in adopting the new pressurized package. Here the technical know-how and experience of the aerosol research laboratory of van Ameringen-Haebler can guide you safely.

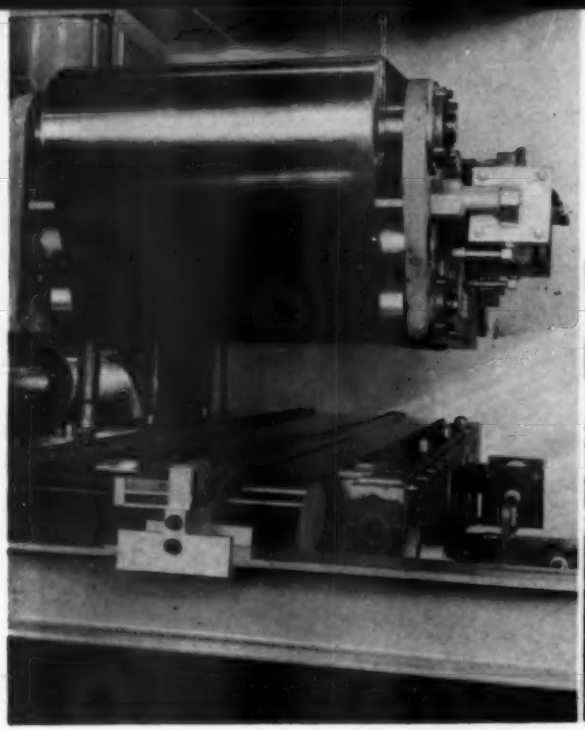
Customers of VAH enjoy the following advisory services:

- FORMULATION TO ACHIEVE COMPATIBILITY
- EVALUATION OF NEW PRODUCTS
- TEST PACKAGING
- VALVE RECOMMENDATIONS
- FILLING PROCEDURES
- PRODUCTION TROUBLE SHOOTING

Although primarily concerned with matters of fragrance, VAH established this complete aerosol research laboratory to assist its customers in every phase of this new field of packaging from product formulation to pilot runs for market testing.

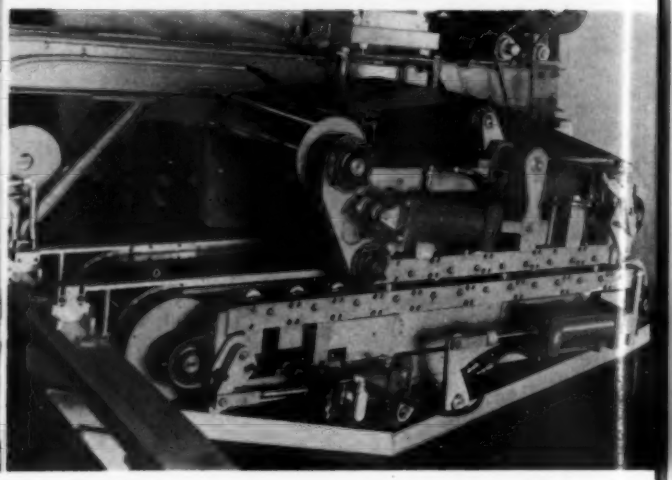
van Ameringen-Haebler, Inc. 521 WEST 57 TR


Experience
TREET, NEW YORK 19, NEW YORK



The Hazelett strip-casting machine open, revealing the casting space.

A side view of the machine. The metal is poured into the near end.



Strip Casting Aluminum

A method of continuous casting of aluminum has been developed by the Hazelett Strip-Casting Corp., Fairfield, Conn., which could have a highly favorable effect on the future of economically-priced aluminum containers for aerosol products. The machine that performs the operation is a development of the Connecticut company, and is described in the following article by Richard Hazelett, vice-president of the firm.

It should be pointed out that most one-piece aluminum containers are currently being impact-extruded from slugs, while two-piece aluminum containers (currently being manufactured in Europe) are cast from sheet aluminum.

ALUMINUM strip for slugs and sheet may be cast by packagers themselves, if a new continuous casting process proves to be applicable. Already 1¼" x 12" EC aluminum bus bar is being continuously cast at 10 feet per minute. No further rolling or edge-trimming is done before the bus bars are installed.

This development has been made possible by the Hazelett strip-casting machine, an invention of the late C. Wm. Hazelett, who was well known as a research engineer in metals circles for his 30-year effort to solve the problems involved. Kaiser Aluminum & Chemical Corp. became the first to reach commercial production with the process, shortly after Hazelett's death. At Kaiser's Chalmette, La., plant bus bar has been made for the firm's new Ravenswood, W. Va., reduction plant.

Soon after Kaiser's purchase of this first machine, orders were placed by Alcoa, Scovill Mfg. Co., Bridgeport Rolling Mills, and Aluminum Co. of Canada, and all but the last of these have already been delivered. Two of these machines will cast as wide as 36 inches. All will cast as thin as ½ inch, at which thickness the linear speed is around 25 feet per minute. The production rate in aluminum is thus in the vicinity of five tons per hour per foot of width. Widths and thicknesses are quickly changeable and the strip is delivered horizontally.

The main use of the process is expected to be for furnishing strip ready for immediate rolling to thin gauges, thus eliminating the need for a breakdown mill. Batch operation is easily accomplished because no warm-up period is required for the very thin mold surfaces used. Thus the process may lend itself especially to the medium-size user. Bronze and steel are also being cast experimentally.

The process is basically simple. Two water-cooled steel belts travel around pulleys under tension. The lower belt extends further than the upper one, providing a pouring surface. The belts travel parallel to one another at a slight incline downward from the pouring end. The two belts traveling together may be described as a traveling mold; the sides of the mold are made up of suitable moving edge dams.

In operation the machine is essentially a sandwich of the two belts and the molten metal. No work is done on the freezing metal, since it solidifies without disturbance before it travels lengthwise from the belts to

(*Continued on Page* 56)

Here's the RIGHT Propellant

for EVERY Aerosol Use...

genetron® AEROSOL PROPELLANTS

genetron 12 DICHLORODIFLUOROMETHANE
genetron 11 TRICHLOROMONOFLUOROMETHANE
genetron 12/11 MIXES
genetron 114A DICHLOROTETRAFLUOROETHANE
genetron 12/114A MIXES
genetron 142B MONOCHLORODIFLUOROETHANE
genetron 142B/114A MIXES
genetron 113 TRICHLOROTRIFLUOROETHANE
genetron 22 MONOCHLORODIFLUOROMETHANE
genetron 152A DIFLUOROETHANE (1-1)
SPECIAL PROPELLANTS

Need technical assistance?

General Chemical has one of the most complete aerosol development laboratories in the country. Without cost or obligation, we will be glad to help you develop the right propellants and formulations for your product and container. Send for free fact-packed technical manual and market data book... "How To Push Up Profits With Aerosols."

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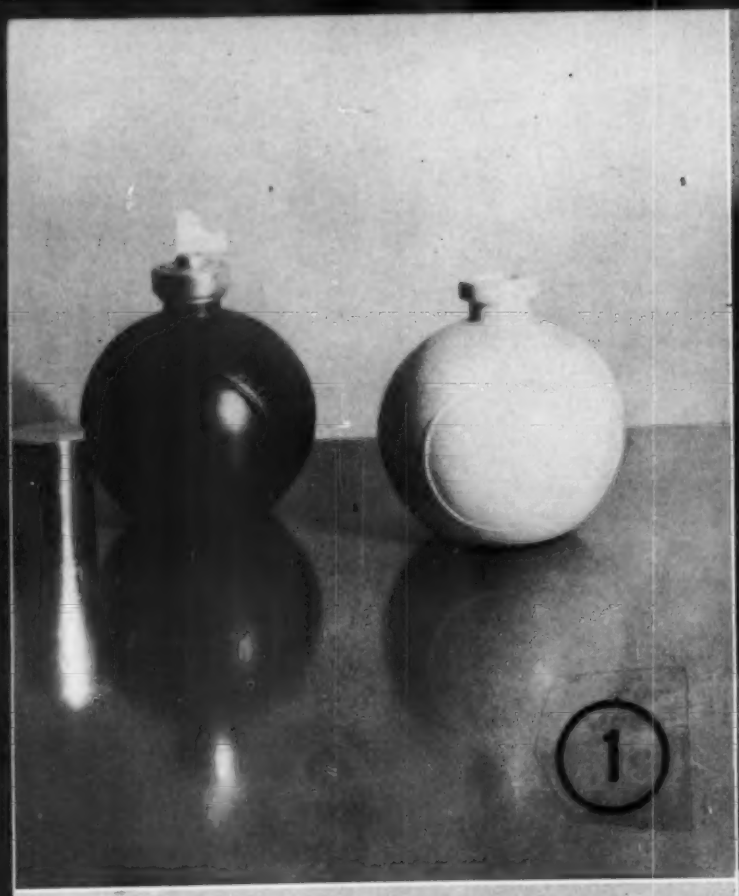
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esodor
3

MIRACLE FOAM
Charcoal Lighter
JET
BLAZE
2

4

New Products and Packages

1. Pegasus International Corp., New York, reports the appearance in the United Kingdom of an aerosol container manufactured from polyethylene. The contained is rigid to the touch and slightly smaller than a baseball. The package at left in the photo utilizes a Risdon bottle valve made by a British licensee.

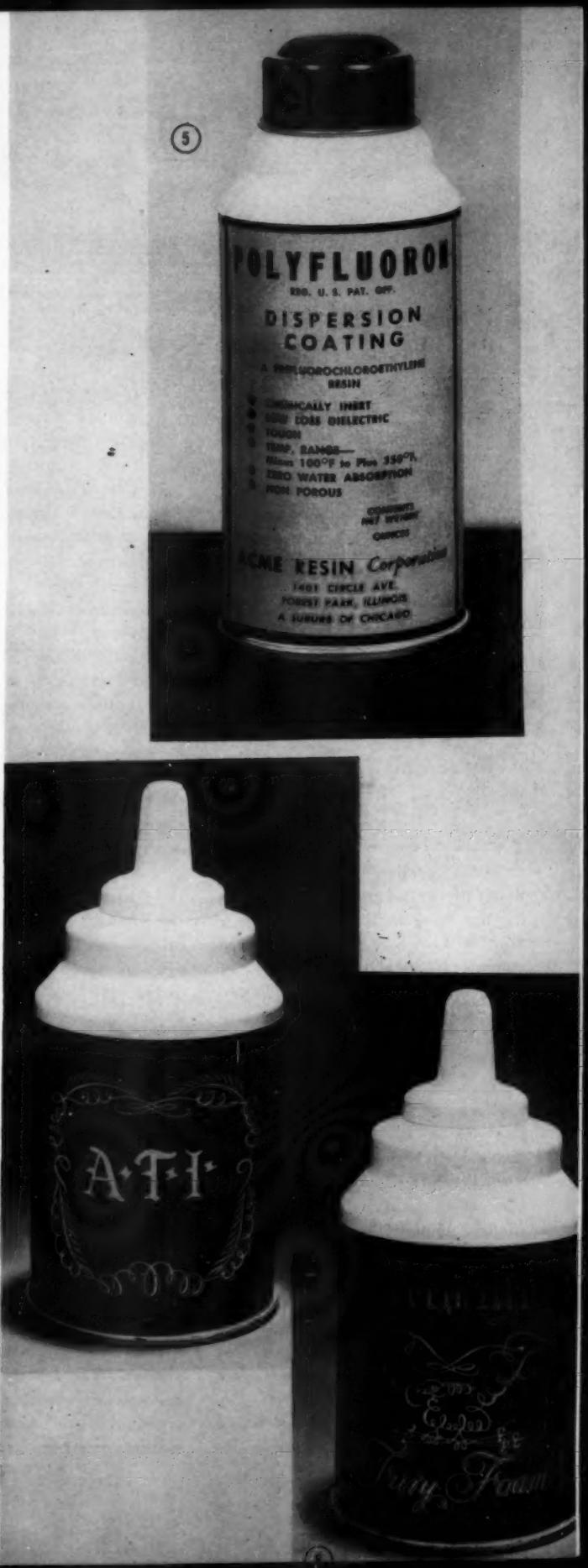
2. **JET BLAZE,** a foam product for lighting charcoal, is being marketed by Crescent Chemical Co., Ardmore, Pa. for 79c. east of the Rockies. It was developed and is being filled by Peterson Filling, with a Clayton valve and ConCan and Canco 16-ounce containers. It utilizes a butane propellant.

3. **DESODOR,** a pine-scented room deodorant, was recently released in Germany by Spruhtechnik G.m.b.H. It utilizes a Risdon 5210 valve made under license by Spruhtechnik and the label gives instructions for use in both the French and German languages. The 12-ounce container has only recently become available from Staehle G.m.b.H., Stuttgart.

4. **ROSES OF PICARDY SACHET,** a new product of the House of Picardy, Inc., New York, is being filled in a Peerless aluminum container. The company is also marketing **AIR PUFF,** a room deodorant, in a larger size aluminum container.

5. **POLYFLUORON,** a polymer of trifluorochloroethylene, a corrosion inhibitor for acids, alkalies, and inorganic solvents, is being marketed by Acme Resin Corp., Forest Park, Ill. The package is equipped with a Precision valve in a Crown "Spratainer", and is being filled by the Gene Rose Co. It retails at $4.50.

6. The **"AERO MUG",** inspired by old-fashioned shaving mugs, is currently being distributed to executives in the cosmetics, toiletry, pharmaceutical and kindred fields, as well as to customers and potential marketers, by Aerosol Techniques, Inc., Bridgeport, Conn.



Use a custom filler!

Vs

Do it Yourself!

PART II

This is the second part of a survey conducted by *Aerosol Age* to sound out fillers and marketers on the pros and cons of filling one's own aerosol products, or using an experienced custom filler to perform the entire operation. An endeavor was made to get authoritative, non-biased answers from both marketers and fillers, in order to provide new companies entering the aerosol field with sufficient background to better make their own decisions.

Both have their Place in a Growing Industry

by Joseph S. Lindeman

President
The Nestle-LeMur Co.
New York

IT should be clear at the outset that both "captive" and "contract" filling of aerosol products have their rightful place in this field. There is no single or simple answer for the marketer of established products or for those seeking to enter this important and growing industry. Suffice it to say that all of the pertinent considerations must be given careful study before a decision is reached.

Of course the advantages of "captive loading" are most appealing and would include direct control of quality; flexibility in operation; and lower manufacturing costs provided that the volume is sufficient to absorb the overhead involved. The economic factors in general are clear and recognized.

1. Availability of existing manufacturing and storage space or provision for additional space with attending new costs.
2. Capital investment in filling equipment and installations including storage of propellants.
3. Purchasing power to obtain lowest material costs.
4. Cost of overhead including management, engineering and maintenance, research and quality control, material handling and depreciation.
5. Control of abnormal losses through bad batches, rejects and "leakage" of propellants.

The importance of the intangible factors must be emphasized. The ability to produce a product of the highest quality must be the prime consideration. Thus experienced laboratory and engineering personnel is essential. Product improvement and new product development must keep pace in this rapidly maturing field. Development of the all-inclusive "know-how" is the key to a successful operation and surely, top management must contribute importantly to the considerations and subsequent implementation of decisions.

While the aerosol field is comparatively young, great progress has already been achieved, particularly in the United States. There are many efficient custom filling facilities available and the marketer has opportunities for success on either "captive" or "contract" basis depending upon which method best suits the circumstances.

The problem in foreign markets is considerably greater. Tariffs, shipping costs and other prohibitions discourage the importation of finished products. The Aerosol field is largely undeveloped and facilities are either unavailable or severely restricted. Market potential, at least initially, is often limited by a low average income and local custom, and does not encourage growth in the Aerosol field within most foreign countries. Thus, U. S. firms in each industry with "captive" aerosol operations integrated in their business are in an excellent position to serve their own subsidiaries or independent distributors in foreign markets. Established trademarks, developed formulae and products, continuous research, supervision of installation of small "captive" filling units, and training of personnel in the operation of facilities are all available in a "package" to foreign firms interested in this new "growth" field of Aerosols.

These comments are not intended as exhaustive of the subject. There is much more that could be said on the pros and cons of "captive" vs. "contract" filling of aerosol products. Even for the good prospect of a "Captive" installation, the benefits sought may easily become illusory. Both methods are essential to the continued growth of the aerosol field and the decision as to which one to use must be based on the circumstances of each individual operation.

Flexibility a Factor

by S. D. Blair

Purchasing Director
J. B. Williams Co.
Glastonbury, Conn.

IT is true that the contract filler today offers many advantages to the buyer. For a young industry there are a great many contract facilities available and among them are some good ones.

(*Continued on Page* 56)

If we can *(and we think we can)*

We will answer your questions on

Aerosol Formulations

As the pioneer formulator of insecticidal aerosols, we have assembled valuable information which could be of interest to every present and future manufacturer of aerosols.

If you have specific questions on the latest developments of formulations and ingredients for household specialty and insecticidal aerosols, our research department personnel will do their best to answer them.

M **c** **LAUGHLIN**
G **ORMLEY**
K **ING** *Company*

1715 S.E. Fifth Street / Minneapolis, Minnesota

McLAUGHLIN GORMLEY KING CO.
1715 S.E. Fifth Street / Minneapolis, Minnesota

- We would like to have the answers to the list of questions attached.

*Name*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

Housewares Exhibit

THE 27th exhibit of the National Housewares Manufacturers Association, the largest summer show in housewares history, was held at the Atlantic City, N. J. Auditorium, July 8-12. The show, which attracted close to 20,000 buyers, manufacturers, and other industry representatives, included more aerosol products than ever before in its history. Of the myriad pressurized products, charcoal lighters (a relatively new product), insecticides, snows, paints, room deodorants, and insect repellents, were most in evidence. Since it was too big to permit room for the thousands of homemakers who would have been interested in attending, admission had to be limited to industry representatives, mainly buyers. Persons in attendance at the booths displaying aerosols reported increased interest in aerosols (of all products types) over that of last year. Though there were just four exhibitors in the custom filler category (A-M-R Chemical, Bostwick, Plasti-Kote, and Stalfort) a number of private-label packagers and marketers also displayed their aerosols.

A few of the aerosol exhibits at the show. From top: O'Cedar, Insta-Products Co., Knapp-Monarch Co., A-M-R Chemical Co., Inc., and Bostwick Laboratories, Inc.

A New Package for the Pet Market

A RADICAL new package and considerable enthusiasm for the aerosol idea are furnishing major impetus for a young company in the pet supply field — Guardian Industries, Inc., of Bronx, N. Y. The package, with its deluxe gold label and dog's head contour over-cap, is expected to help Guardian capture a major share of the growing aerosol pet market during the coming months.

The company's founders, Paul Nelson and Alex MarElia, are aiming for this particular market with what they believe is a different packaging concept — at least in the pet supply field. Recognizing the obvious — that the chief sales impact in the pet, department, and chain store (chief dollar-volume outlets for pet products) must come from the package itself — they have devoted their principal effort toward improved package design.

Literally swallowing the aerosol idea "hook, line, and sinker," Messrs. Nelson and MarElia have pushed through production, design, and marketing problems to have their complete aerosol product line ready for national marketing in just over eight months after its initial conception. Their enthusiasm is boundless, and they have tackled their own unique problems, getting their feet wet in aerosols and designing a radically new overcap in record time.

The caps, representing the heads of the 12 most popular dogs in the U.S. were specially cast for Guardian. Like the label, they will be in gold. The new package is already appearing in variety, department, pet, grocery, and drug stores throughout the country just a matter of weeks after first installation of the firm's aerosol filling equipment.

There was a definite purpose behind this rush to market, for Guardian has learned well (in its mere two years of existence) about the seasonal demand for pet products. Almost paralleling the fluctuating demand for pesticides for agricultural uses, Guardian has discovered that people generally don't buy pet pesticides and shampoos in the wintertime. Apparently warm spring and summer weather tend to bring out the "care instinct" for pet owners, for it is during those months that pet suppliers have to scramble to keep the shelves filled.

Guardian's current product line includes a pressurized parasite-killer mist and a pressurized lanolin-foam shampoo (both retailing for $1.50) and a parasite-killer flea powder (non-aerosol, but packaged in an aerosol can, retailing at $1.29). Both aerosol products contain lanolin, a special deodorant agent, and both are spice-tinted for added consumer appeal. To arrive at their particular scent (developed for them by Dodge & Olcott) Guardian tested a panel of women for scent preference. Spice won hands down.

All three products are being packaged in Crown seamless Spra-tainers, and the aerosol packages are equipped with Precision foam and spray valves. The novel over-cap, specially cast at considerable expense for Guardian, is made of gold-finished polystyrene, formed by an injection molding process. In order to avoid any hint of partiality (MarElia canvassed stores during the first years of the company, accompanied by an Afgan) the company selected the 12 most popular breeds of dogs in the U. S.

To obtain suitable molds for the caps, the company management rejected the first candidate, a clay mold of a dime-store dog, as being too shoddy in appearance. They eventually settled on some Royal Doulton china dogs for their models, and the new caps have the quality appearance to match the rest of the package (and to meet Guardian's desires for a quality package). Possibly the most remarkable thing about Guardian Industries, however, is that neither of the co-owners are chemists, nor have they ever had any aerosol experience prior to forming their own company. Mr. MarElia worked in an advertising agency and Mr. Nelson was one of his clients. One day, Mr. MarElia was offered a dog collar that, the inventor claimed, would rid any dog of fleas. It seems that fleas, at least once during every 24-hour period, travel to the dog's head. A collar, treated with an insecticide, could kill

(*Continued on Page* 53)

AEROSOLS ... in Review

More Data Announced on Insect Repellents

NEW evidence of the efficiency of diethyl toluamide as an insect repellent is cited in an article, in the June *Soap and Chemical Specialties*, by I. H. Gilbert, H. K. Gouck, and Carroll N. Smith, all of the Entomology Research Division, ARS, USDA. The article consists mainly of tables and statistics showing the comparative effectiveness of the new repellent and other repellents against mosquitoes, fleas, chiggers, lone star ticks, and other common insects.

In a summary of their research findings, the authors say: "In skin applications diethyl toluamide was the most effective repellent in protection-time tests against *Aedes aegypti* and *taeniorhynchus* . . . Diethyl toluamide retained its superiority against both species under sweating conditions. Its margin of superiority was even greater with respect to resistance to removal by wiping and rinsing. Decreasing the amount of meta isomer by adding the pure ortho isomer to the technical diethyl toluamide reduced its effectiveness against both species, especially its resistance to wiping."

. . . "As clothing treatments diethyl toluamide and mixtures containing it were more effective than the standard M-1960 against *aegypti*, about equal against *taeniorhynchus*, more effective against *Xenopsylla cheopis* (oriental rat flea), and less effective against *Amblyomma americanum* (lone star tick). Against *Trombicula splendens* (chigger) diethyl toluamide and some mixtures containing it were highly effective as fresh treatments, and were more resistant than M-1960 to aging, but less resistant to rinsing."

AEROSOL caps are presenting new problems to the management of supermarkets, according to the June issue of *Drug & Cosmetic Industry*. The periodical, in its "Packaging and Selling" column, reports:

"It is common supermarket practice to mark the price of aerosols on the top of the cap, because it has been found that marking the price here can be done more rapidly and conveniently. An increasing number of people in the supermarkets have been switching caps — for instance, hair sprays are usually in the $.69, $1.25, $1.35, and $2.00 sizes. Since these packages normally have the same size cap, the stores are discovering an increasing number of people are switching caps; that is, for instance, placing the $.69 cap on the $2.00 package."

GLASS aerosols, plastic coatings, and the British Packaging Exhibition are among the subjects discussed by Jack Pickthall in his monthly column "Aeroscripts" in the June *American Perfumer & Aromatics*. The English chemist, of Polak & Schwarz, England, Ltd., reporting on the Packaging Exhibition at Olympia, London, describes a growing interest in aerosols throughout the U.K.

Mr. Pickthall reports that 85 to 90% of glass aerosol bottles in the U. S. are plastic coated, and declares: "I am hopeful that England, at any rate, will make their figure 100% coated."

On the subject of perforation of plastic coatings, the author had this to say: "In our own experience, preperforation does not seem necessary, as the splinters of broken glass perform this function. However, one filler I know tells me that he experienced isolated cases where the glass has not shattered but has broken into several large pieces. In this case, there has been no perforation of the coating, which has simply ballooned and finally burst. He doubts whether there would ever be any danger due to flying glass but is afraid that the person who has dropped the bottle may bend down to pick it up. In this case, he or she may well receive the full force of the contents in the face. This seems an extremely good point and worth considering."

"Makers of plastic coatings tell me they do not perforate the coatings themselves because, when the bottles are immersed in hot water during leak tests, the water tends to be sucked under the coating through the perforations. They therefore prefer to leave the perforation to the fillers. They suggest the perforations are desirable to avoid the risk of the coating being blown away from the neck of the bottle. They favor either small perforations every half inch around the periphery of the bottle, or about three holes of about one-sixteenth of an inch diameter. One of our most important fillers suggests that it is not necessary to actually punch the holes but to simply pierce the coating, and he makes four such perforations at the bottom of the bottle and another four near the neck. These punctures are spaced out so that there is an even spread of eight holes."

Mr. Pickthall reports there were only two contract fillers and one container manufacturer (Midland

Aerosols, Safca, and the Metal Box Co.) among the exhibitors at the British Packaging Exhibition. He quoted some of the Safca staff, who voiced the opinion that nothing "sensational" will be done in the field of aerosol perfumes in the U.K. until metering valves are available.

He declared that all three of the exhibiting companies reported "remarkable interest" in aerosols by those attending the exhibition. "There seems no doubt that far more people have become interested in this new method of packaging as a result of increased advertising during the past year."

A COMPLETE discussion on the importance of distinctive packaging to meet self-service competition is the theme of "New Packaging Trends" in the July 1 *American Druggist*. The article, a project undertaken by AD staff writers, attempts to analyze trends in packaging over the last few years. As might be expected, aerosols figure prominently in the discussion.

Aerosols and squeeze bottles are credited with having literally "made" the hair dressing and deodorant markets in the first part of the article, which deals with "Why the Package is Vital to Retail Druggists Today." In fact, the publishers declare, "the package makes such an important contribution in enabling the consumer to use the product easily, quickly, and conveniently, that *the package itself literally constitutes a vital new product.*"

In addition to normal and up-to-now conventional packaging concepts, the article observes that four additional considerations have recently entered the general picture:

"1. The package is now being designed as a vehicle for advertising.

"2. The package is now being designed as a silent salesman.

"3. The package—or more accurately, the container—is now being equipped with every available device to make it easier for the consumer to use the product inside the container.

"4. Where measured doses are helpful or even essential, today's package is being designed to make such doses quickly available."

In nearly every one of these categories, aerosols are cited as practical examples.

In an evaluation of manufacturing trends, summing up the opinions of 27 pharmaceutical manufacturers, *American Druggist* reported that the following trends (in order of frequency of mention) predominated:

"1. More and more topical medicaments will be administered via push-button sprays.

In this column aerosol subjects, appearing in other domestic and foreign periodicals, will be reviewed and their findings summarized. It is felt that this service will enable the reader to keep abreast of most of the important contemporary articles about the industry, even though they may appear in other periodicals. Since there is a chance that some pertinent articles may be overlooked, it will be helpful if readers will call our attention to any they judge important enough to review. ***The Editor***

"2. There will be more single dose packaging.

"3. There will be a swing to plastics, especially in squeeze tubes.

"4. More containers — for both liquids and powders—will dispense measured doses."

The views of 32 manufacturers of cosmetics and toiletries showed further optimism for the aerosol package:

"1. Everything that can possibly be administered via pressure-spray or squeeze bottle will be given this type of packaging . . . including perfumes.

"2. Miniature sizes . . . which women can easily carry around in purse or pocketbook for day-long use . . . will be developed.

"3. Packages will be made more acceptable for display on the boudoir table.

"4. Single-use packages will be created to the maximum extent possible."

In some general comments of packaging trends he has observed, Max Factor told *American Druggist*: "Make-up foundations may be developed so they can be simply sprayed on the face from an aerosol container."

Turning to a general analysis of the aerosol picture, the article quotes Vincent DeFeo, of Dodge & Olcott's aerosol department, who predicts that, by the end of this year, there will be 100 medical products in aerosol form—against only 50 to the end of last year.

On the same subject, the article reports that Dr. A. Schmitt of Stuttgart, Germany, reported that high concentrations of antibiotics—such as Aureomycin, penicillin, streptomycin, Terramycin, and Tyrothricin—"Can be inhaled in pulmonary conditions, carrying medication to areas where parenterally administered antibiotics would be relatively ineffective."

. . ."Among the toiletries, the products which seem to be closest to reality for use in aerosol containers include toothpastes, depilatories, baby lotions, and mouth washes."

THE "Aerosol Corner" of the July *D&O News*, monthly publication of Dodge & Olcott, Inc., New York, discusses "Acetulan", a new type of hydrophobic lanolin derivative recently developed by American Cholesterol Products, Inc. The article declares. "For aerosol use, Acetulan is of special interest and has proved its value in many types of products where it acts not only as a plasticizer and co-solvent for the various components, but also as a penetrant, emollient, and protective agent for skin and hair."

"An excellent plasticizer for polyvinyl-pyrrolidone and related compounds, it is soluble in, or acts as a solvent for most waxes, oils, propellants, and alcohols. Valve clogging, solubilization difficulties, and material incompatibilities are practically eliminated in the aerosol products formulated with Acetulan, while the use of only ½% to 3% is sufficient to impart its desirable properties to skin and hair."

A typical aerosol formulation for hand cream is included.★

Consultant's Corner

by Robert A. Foresman, Jr.

Secrecy Not a Factor in Europe

MY trip through Europe is pretty well in the past by this time and my voice on the industry in Europe may be deemed really not necessary in these pages, but a few sidelights may be of interest.

One very startling fact observed, (and one which seems completely at odds with all accepted ideas), was the free and open discussion of specific details of operations, formulas, future planning, relationships with other industries and the same industry in other countries, coupled with quite frequent offers to show off their manufacturing facilities. The common impression that European manufacturers maintain secrecy at the expense of all the advantages to be gained by open discussion of their problems, was certainly not borne out by my experiences. As a matter of fact, on occasion, I suggested that it was not necessary that I have all the information that was offered. The reaction was simply that it could possibly serve a purpose and why not have it available.

Whether this stems from the fact that aerosols are new (and presumably everyone in the industry has the same background knowledge), or whether there is simply a general relaxing of the old notion of secrecy, I do not know, but the effect is both constructive and very pleasant.

The equipment used in Europe is generally excellent and has more production capacity than I would have guessed. Originally, most of the installations were shipped from the U. S., but once the techniques are learned and understood, it seems that every operator of filling equipment is fully competent to originate and add well-designed and well-built equipment of his own. Generally pressure loading equipment is more popular (for obvious reasons) but a number of highly efficient cold fill lines are in operation.

One aspect of the European industry, that should be heeded by our own, is the generally very high order of theoretical competence possessed by all those connected with it. Of course the reason is easy to understand — the demand for technically trained personnel by heavy industry is not nearly so all-inclusive as in our own economy at the present. The aerosol industry offers a new technology and a new industry to the Doctor Chemist or the Doctor Engineer who is in the position of having to explore all possibilities as an outlet for his talents. Thus the aerosol industry is given serious consideration by graduates along with all the other industries, where our own industry has generally been bypassed by the masses of graduates of technical schools here. (Happily this trend seems in the process of being reversed, judging by the recent upsurge of interest by the faculties of a number of colleges and universities.)

The result of the relatively large numbers of theoretical scientists working with aerosols in Europe has not been felt here, so far; but I would say that in a very short time we will have to look to our laurels in the field of original development. Cooperative effort between us will increase, and we will all benefit from any new developments, though in the meantime we should make sure that we encourage more serious consideration of our industry by top flight young scientists.

THE European Customs Union came in for a lot of discussion while I was there and I couldn't help thinking what it would mean. At the present time, just for aerosols, nearly every country has a full complement of component manufacturing facilities, raw material suppliers, propellant manufacturers, and loaders — none of which can use the advantage of competitive prices, except within his own borders. The reason, of course is the existing tariff wall between the nations. Add these factors together and the result is high prices which cannot be reduced, for a market which cannot pay such high prices on a real mass basis.

When and if free exchange comes about, production levels, efficiency, and prices will all balance out on the basis of the whole European economy, rather than on a localized segment of it. Probably *no other* consumer item will show the results of such a change as will aerosols. Sales have been relatively high and growing, but pricing is still way above the mass market. The demand is there and when prices can be lowered, the rush will be on.

IN THE smoke of the controversy raised over the safety of glass aerosols, I am reminded of my conversation in London with Jack Pickthall, unwitting initiator of the whole thing. He was rather startled at the reaction to what he had intended to be a more or less routine report. We discussed the matter at some length and I think the following comments pretty well cover the essence of the conversation.

There is no such thing as *absolute* safety as long as a bottle can break.

(*Continued on Page* 53)

Thar' she blows...
a whale of a fine aerosol spray
PFW creates aerosol fragrances that fit your products so well, you'll think nature had put them together, herself.
PFW
POLAK'S FRUTAL WORKS INC., MIDDLETOWN, N. Y.
AMERSFOORT, HOLLAND • PARIS, FRANCE • BREMEN, GERMANY • BRUSSELS, BELGIUM • SOFLOR LTD. PERIVALE, ENGLAND

Pressure Packaging Overseas

Dr. Tom C. Clark, Druk-Pak, Ltd., Zurich, reports that Europe's cold Spring weather may cut predicted aerosol sales figures for 1957. Europe's big gain will come in '58.

WITH a burst of hot sun and dry weather, July brought a welcome change for European Aerosols. Even to late Spring, merchants were still selling insecticides and sun tan sprays from last year's inventory and new orders had lagged. Now, the rush is on, straining loader's facilities.

July and August are Europe's big vacation months, during which practically the entire Continent is given over to "tourism."

Once, when a Parisienne was asked why she closed her dress shop during August (the year's best month for tourist trade) she replied: "It is the best month of the year at the beach, too." It is the beach or camping for the European now and he likes nothing better than to pitch a tent and have his wife cook over a fire. But whether he lies on the beach or sleeps in a tent, he uses more aerosols. If the weather is right, with a long spell of just the right kind, Europe might reach its expected 1957 goals, but we doubt it. The good weather started too late. For Europe's real spurt, we will probably have to wait for 1958.

Publication of U.S. 1956 production figures, with their estimate of 320 million units has stirred up much controversy over here. In such consistently steady growth, year after year, must lie a bright future for those starting late in overseas countries, so goes the reasoning. And those already started look anxiously toward expanding their present facilities. Of course, the first question is: What kind of facilities, cold or pressure?; and then, What kinds of containers, metal or glass, or both? The container controversy breaks down further to choices between tin-plate cans or aluminum, and with the glass bottle, coated or uncoated. These questions may seem "old stuff" to U.S. producers, but for overseas loaders, present and potential, they are real issues. Current and back numbers of *Aerosol Age* are taken as the "Bible" for the industry and avidly scanned. The text of whole issues is frequently translated into the country's language. If the answers are sometimes not clear cut, at least the facts of both sides are presented.

After all that has been said and published, it is surprising to find cold versus pressure filling still an issue. But an issue it is, and a big one, particularly for starting operations and expansion projects. Assisting those seeking an answer, we can report on some new German pressure filling machines. On a test run of 25,000 containers using a charge of 155 grams, propellant loss for the run was 0.2%, with a container-charged weight tolerance of less than 0.5 gram. This was considerably less than the weight variations in the containers themselves. As propellant cost is a principal item for overseas loaders, these new machines should help in solving this problem. Using six- and 12-ounce containers fitted with suitable pressure filling valves, a daily production of between 4,000 and 6,000 can readily be reached. Of course, the type of machine and filling method selected will depend on the size of the market and potential demand, factors the loader has to decide for himself.

ONE reason for the general merchandizing success most transplanted Europeans enjoy in the U.S. is their early commercial training in European market conditions. They have a better understanding for the small market, the distributor and retailer, in whose hands they leave the buying public. The U.S. businessman is forever reaching out to his enormous number of potential buyers, gearing his manufacture, advertising and distribution programs accordingly. On the other hand, to Europeans the "market" is a restricted area, a section of a small country and, at the most, the whole of one. Their imaginations cannot grasp the U.S. as one free market area. To them, the U.S. is not a single country — it is a whole continent. No single Western European country is as large as Texas. Holland has about the same area as Delaware and Maryland combined. Now, supposing the merchants of these

(*Continued on Page* 53)

Chlorothene does a double job in spot-remover formulations

. . . lowers costs in several aerosol formulations

Chlorothene® saves money twice when it's put to work as an ingredient in spot-remover formulations.

First, it cuts costs by replacing a more expensive type of depressant. Second, it also serves as the active ingredient! The powerful "built-in" solvent action of Chlorothene does a superior cleaning job, but has no adverse effects on any type fabric.

Many other money-saving formulations contain Chlorothene, including moth-proofing and water-proofing products and insecticides. In all these formulations, Chlorothene cuts costs as a pressure depressant. It often permits elimination or reduction in the use of solvents with objectionable odors. It's a more stable, safer solvent (low in toxicity) and it has application in many nonflammable formulations.

We'd like to send you some information about Chlorothene—uses, costs, properties and other interesting facts. Write us today. THE DOW CHEMICAL COMPANY, Midland, Michigan, Department SO-1026M-2.

YOU CAN DEPEND ON DOW

NEWS of Pressure Packaging

Charles L. Gebauer Dies

Charles L. Gebauer, widely-known for Gebauer's Ethyl Chloride and other allied products, died June 15 following an operation at Grace Hospital, Cleveland, Ohio. He was eighty-three.

With a brother, Theophilus, Mr. Gebauer founded the chemical company that bears his name in 1900. He had an inventive mind and is generally credited with some of the first pioneering work in the aerosol field.

His first "propelled" product was "Gebauer's Ethyl Chloride," in a metal tube, followed by "Gebauer's Ethyl Chloride" in the "Dispenseal" bottle; and others, including "Gebauer's Tannic Spray," "P.-M.C. Spray," "S. S. Spray," and "Alco Spray." The newest of his products is "Fluro-Ethyl."

Mr. Gebauer was born in Genoa, Ohio, August 5, 1873, attended Purdue University in 1895. In 1898, he enlisted in the Spanish-American War and was a veteran of that campaign.

●

Aerosols Continue Use Rise

Continued increases in use of aerosol products, particularly hair sprays and shaving creams, are reported in the latest report of Consolidated Consumer Analysis, released in June. Two of the greatest increases from 1955 to 1957 among the many toiletry products listed were recorded by aerosol products.

Pressurized hair sprays were used by 17.3% of women in 1955, and the percentage soared to 38.7% in 1957. Aerosol shaving lathers also continued to increase in use, with the percentage of men who use aerosol lather jumping from 17.5% to 23.1%. This last gain was registered at the expense of brushless shave creams, which showed a 3% loss during the period.

■

Husted Joins Union Carbide

Elbert E. Husted has joined the Fluorocarbon Sales Department of Union Carbide Chemicals Co., division of Union Carbide Corp., New York and will be concerned primarily with sales of fluorocarbons to the aerosol industry.

This appointment, another in a number toward establishing a sales organization to serve both the refrigeration and aerosol industries, followed the May appointment of John R. Hulten as manager of Fluorocarbon Sales. The company first announced plans to build a production unit for fluorocarbons in February. The new unit, scheduled to begin operation in 1958, will produce 50 million pounds of fluorocarbons per year at Institute, West Virginia.

Mr. Husted was born in Denver, Colorado, and holds the degree of B.S. in chemical engineering from Princeton University. He will make his headquarters at the Company's main office in New York.

CSMA Announces Luncheon

The Chemical Specialties Manufacturers Association last month issued details of its general luncheon and board of governors meeting scheduled for Sept. 16 and 17 at the Hotel Commodore, New York City. The two day gathering of CSMA members will include two meetings of the Aerosol Division Administrative Committee (10 a.m. and 3:15 p.m. Sept. 16); a general luncheon meeting for all members in the New York area and any members in the City at the time (12 noon, Sept.16); and a board of governors meeting (2:15 p.m.); on the following day the board of governors will meet again, and meetings of any committee will be arranged as requested.

Babbitt Reshuffles Staff, Samuels Given Top Post

"A major marketing realignment, involving executive changes and the appointment of new advertising agencies" has taken place at B. T. Babbitt, Inc., according to the *New York Times* for July 18. Heading the list of executive changes is the announcement that Samuel Mendelson, who had been president, had been named chairman and a member of the executive committee.

According to the *Times*, "active operation" of the firm will pass into the hands of A. O. Samuels and Harold H. Shincel, both members of the executive committee, who will operate as the company's "administrative team". Mr. Samuels is president and founder of the Connecticut Chemical Research Corp., now a subsidiary of Babbitt, and is also vice-president of Consolidated Metal Products Corp. of Albany, of which Mr. Shincel is president.

The company's marketing activities will be headed by John L. Woolley, assistant vice-president of Babbitt and Jack Shenberg, vice-president of Babbitt's Bostwick Division. To the

A. O. Samuels

newly-created post of director of advertising, Babbitt has named Jack Phillips, who had been marketing manager of "Bab-O".

The new management declared that it plans "an expanded budget for the most aggressive advertising and sales promotion program carried on by Babbitt in recent years." To handle advertising for the aerosol products of Bostwick and a number of other non-aerosol products, Babbitt has named Donahue & Coe, New York

Crown Reorganizes Can Div.

Edward P. Stuart has been appointed division manager of sales by the Can Division of Crown Cork & Seal Co., Philadelphia, it was announced by the company recently. Mr. Stuart has been in can manufacturing and sales during the past 25 years, and since 1955 has been engaged in sales management.

Robert J. Siebert has been appointed sales manager of the newly created Eastern area. Formerly, the Can Division divided the Atlantic seaboard into two separate areas — Northeast and Southeast. Mr. Siebert will now be responsible for the entire area and will coordinate sales activities along the eastern seaboard. Prior to this appointment, Mr. Siebert was area manager of the Northeast region.

Fred Pinkerton, formerly assistant district sales manager of Can Division sales in Orlando, has been named sales manager of the Orlando district, which handles all products of the company from headquarters at Crown's plant in Orlando, Fla.

John C. McEver has been appointed sales representative in Northern and Central Florida also with headquarters in Orlando.

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Buell Joins Reed Research

Donald S. Buell, a June chemical engineering graduate of Clarkson College, Potsdam, N. Y., has joined the Reed Research Corp., Shelton, Conn. He will be active on aerosol research projects carried out by the consulting organization.

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Helene Curtis Aerosols Up

Aerosol-dispensed products made up 46% of the total domestic sales of Helene Curtis Industries, Inc., Chicago, during 1956, a report in *American Druggist* indicated last month. The figures were revealed in a corporate outline of the cosmetic company, and included sales of the company's Lentheric division, acquired in September of last year. For 1956 the company reported a worldwide sales figure of over $42 million.

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Colgate Appoints Frawley

The Colgate-Palmolive Co., New York, recently announced the appointment of Michael P. Frawley as general sales manager of the company's Household Products Division. He succeeds Frank W. Reif, who retired last month.

At the same time the company announced that Eugene E. Buckner, formerly assistant sales manager, will succeed Mr. Frawley as sales manager of the division.

•

Velsicol Offers Gibberellins

Velsicol Chemical Corp., Chicago, has added a Gibberellin product to its line of agricultural chemicals. The product will be available in commercial quantities to formulators for conversion into aerosol and non-aerosol products.

•

Fredette in New Canco Post

Joseph H. Fredette has been appointed assistant general manager of the new products department of American Can Co., New York. A member of the new products department since its organization in 1955, and a member of the company since 1955. He has been active in the development of new containers of all kinds made of metal, fibre, and plastic.

•

Kidde Appoints Hammill

I. J. Hammill, manager of the aviation division of Walter Kidde & Co., Inc., has been appointed executive vice-president and managing director of Walter Kidde & Co. of Canada, Ltd., the firm's Canadian subsidiary. He succeeds C. K. McLeod, who was named chairman.

Contest Details Announced

"BEST Of The Year" applications for entry in 1957 Aerosol Package Competition Awards will be mailed out early in August to brand owners or marketers wishing to submit their new push-button products for judging, it was announced last month in New York by the Aerosol Awards Committee, Chemical Specialties Manufacturers Association.

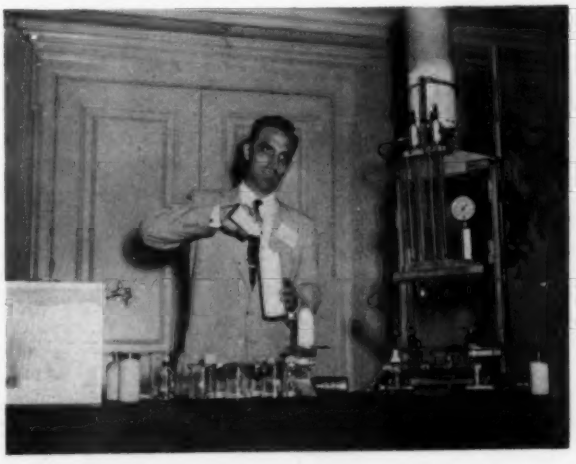
In keeping pace with the changing aerosol market, several new award categories are to be announced, though there will still be only ten product classes in which to compete. As in the past, these sixth annual awards will be made solely on the basis of general sales and shelf appeal of the complete package. An impartial jury of ranking merchandisers and package designers is to be named.

Entries are open to any aerosol brand owner or marketer anywhere and not restricted to members of CSMA. There are no entry fees or other charges for entrants.

Announcement of winners and awards will be made in conjunction with the 44th Annual Meeting of CSMA at Hollywood Beach Hotel, Hollywood, Florida, December 9-12, 1957.

A copy of the Aerosol Contest Bulletin can be secured by non-members upon written request to the Secretary, CSMA, 50 East 41st Street, New York 17. All entries will close Oct. 15.

Demonstration feature of Aerosol Press Reception



One of the features on the program at the press reception for women editors of consumer magazines, wire services, etc. was a demonstration of aerosol filling by John Frangos, General Chemical Div. of Allied Chemical & Dye. The reception, given by the aerosol Division of the CSMA, was to commemorate the billionth aerosol.

Perfume Compounds for aerosol colognes

- modern
- classic
- floral
- French

by

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schimmel

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New York 1, New York

Lunger to Head Ohio Chem.

W. A. Lunger became president of Ohio Chemical & Surgical Equipment Co. of Madison, Wisconsin, a division of Air Reduction Co., on July 1, it was announced last month. He suceeds R. E. Lenhard, who became executive vice-president of Air Reduction Sales Co., another division of Air Reduction Co.

Mr. Lunger has been associated with Ohio Chemical for 18 years, and had been vice-president prior to his new appointment. He began his career with Ohio Chemical as a sales representative in 1939, became assistant regional manager in 1945, and was elected vice-president in 1949.

In a number of other appointments, J. M. Cotter was elected vice-president, C. A. Simpler was appointed general sales manager, L. E. Guentz was promoted to Midwestern manager, and J. H. Greer was named assistant sales manager of the Midwestern region.

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D&O Appoints Brickner

John T. Brickner, of Fullerton, Calif., was recently appointed branch manager of Dodge & Olcott, Inc., Los Angeles branch office. In the essential oils industry for more than seven years, he has also served in a related field with Vitaminerals, Inc., Glendale, Calif.

•

Steps Up Ad Campaign

Hazel Bishop of Canada last month announced a concentrated television advertising campaign to plug its hair spray and other cosmetic products. Through its agency, the company has purchased the "Patti Page Show" on CBC Stations in Winnipeg, Montreal, and Halifax for a 13-week period, the "Beat the Clock" show, and it will use a number of one-minute advertisements on nine independent stations.

•

Wynne Leaves for Europe

Walter Wynne, cosmetic chemist of Givaudan-Delawanna, Inc., left New York for Europe on July 21st for a stay of several weeks. He plans to visit the Givaudan plants in Geneva, Paris and London, and will join the Society of Cosmetic Chemists group touring Europe. He will also attend cosmetic seminars to be held in Paris and Geneva, and the International Conference on hair in London.

•

Symposium Set for Aug. 20

The Aerosol Symposium for the Pharmaceutical Industry, the first such gathering to instruct another industry in aerosol techniques, will be held Aug. 20 at the Philadelphia College of Pharmacy and Science, Philadelphia. Organized by the college to stimulate interest in aerosols by pharmaceutical firms, it will feature leading authorities from valve,

Dr. Martin Barr

container, propellant, and consulting firms, as well as a college authority on pharmaceuticals.

Leading off the program will be Thomas D. Johnson, Jr., DuPont "Freon" Products Division, who will speak on "The Aerosol Market." "The Aerosol Package" will include talks on propellants (by David S. Tillotson, Pennsalt "Isotron" Sales), on containers (by W. Earl Graham, Crown Can Division), and on values (by Walter E. Beard, Jr., Risdon director of research). In the afternoon Dr. Martin Barr, organizer of the symposium and director of the college aerosol study program, will discuss "Possible Pharmaceutical Applications for Aerosols' 'and Robert A. Foresman Jr., Philadelphia aerosol consultant, will conclude the program with the "Laws of Entering the Aerosol Field."

Registration fee for the symposium is $10.

Faber Joins Schimmel

John A. Faber has joined Schimmel & Co., Inc., in the capacity as special assistand to the president, it was announced in New York last month. Mr. Faber, who has been associated with the essential oil section of Fredk. Boehm, Ltd., London, played an active part in the formation of Schimmel Boehm, Ltd., Schimmel's London affiliate in 1953. In 1949 and 1950 Mr. Farber worked with the Glidden Co. in Cleveland.

•

Shincel to Babbitt Board

Harold H. Shincel, president and board member of Consolidated Metal Products Corp., Albany, N. Y., early last month was elected to the board of directors of B. T. Babbitt, Inc., New York. A .O. Samuels, Consolidated vice-president, has been on the Babbitt board since late last year.

•

D & O Completes New Lab

A new cosmetic testing laboratory has just been completed in the Dodge & Olcott, Inc., building at 180 Varick Street, New York. Designed to accommodate all the necessary equipment for testing the compatibility of perfume ingredients in formulating all types of cosmetics, the new laboratory is expected to add considerably to the service offered by D&O to the industry.

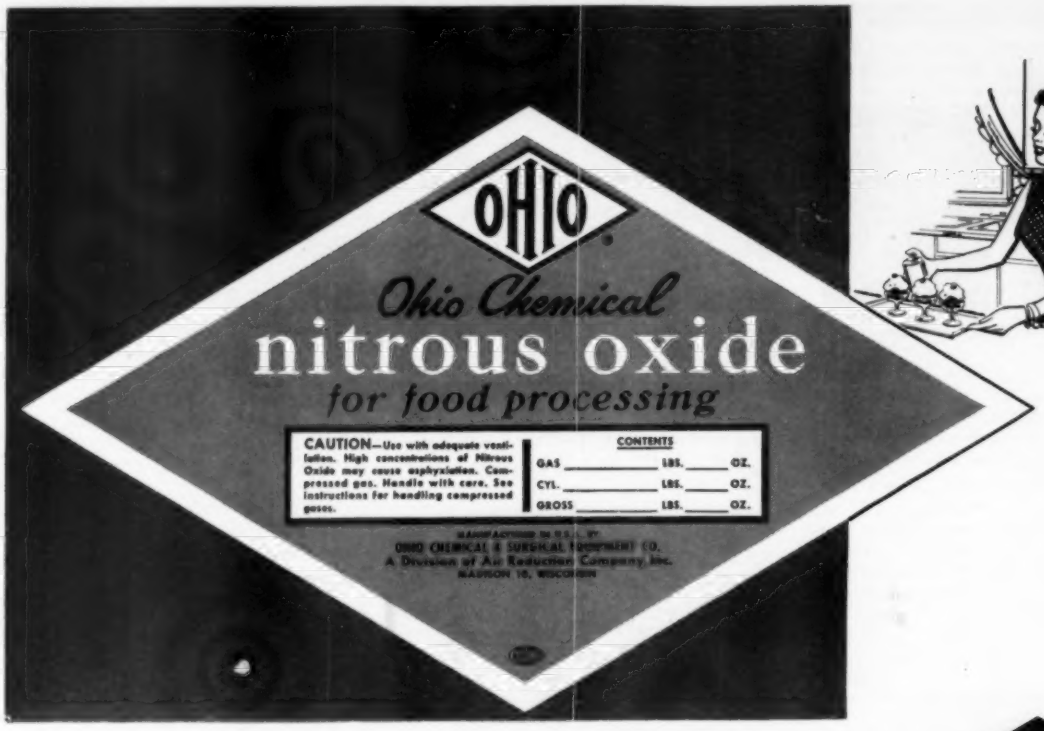
•

D&D Elects P. S. Peteson

DeMert & Dougherty, Inc., Chicago, has elected Paul S. Peterson to the newly-created office of executive vice-president. In his new position he will be responsible for matters of policy concerning procurement, production, and maintenance at all D&D plants.

Paul S. Peterson

Prior to joining DeMert & Dougherty in 1937, Mr. Peterson spent five years with U. S. Industrial Chemicals Inc., of Peoria. During his 20 years with D&D, he has been plant superintendent, production manager, and technical director in charge of the company's Chicago, St. Louis, and Kansas City plants.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Ohio Chemical
nitrous oxide
for food processing
CAUTION—Use with adequate ventilation. High concentrations of Nitrous Oxide may cause asphyxiation. Compressed gas. Handle with care. See instructions for handling compressed gases.
CONTENTS
GAS _____ LBS. _____ OZ.
CYL. _____ LBS. _____ OZ.
GROSS _____ LBS. _____ OZ.
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A Division of Air Reduction Company, Inc.
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this label assures you...

safe use

economy

purity

nationwide availability

free technical aid

Straight nitrous oxide is the ideal propellant for pressurized packaging of foods. Colorless and tasteless, it is non-toxic and non-flammable. Straight nitrous oxide does your job efficiently . . . is much more economical — less than ½¢ per 12-oz. can.

Ohio Chemical is America's largest producer of nitrous oxide. For over forty-five years it has catered to the medical field. This means that Ohio can give you 98% pure straight nitrous oxide; purity that exceeds United States Pharmacopoeia requirement of 95%.

Wherever you are located, you can be sure of quick and efficient delivery service. You deal directly with the source when you call on Ohio Chemical's nationwide organization of branch offices and warehouses.

If you or your client is a likely prospect for the pressurized packaging of food products, Ohio Chemical offers technical service assistance *without cost or obligation.* If you wish to know more about straight nitrous oxide as a propellant, its most efficient use, or its proper handling and storage, write Department AA-8.

"Service is Ohio Chemical's Most Important Commodity!"

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OHIO CHEMICAL & SURGICAL EQUIPMENT COMPANY
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At the frontiers of progress you'll find **An Air Reduction Product** . . . **Ohio:** Medical Gases and hospital equipment • **Airco:** Industrial gases, welding and cutting equipment, and acetylenic chemicals • **Pureco:** Carbon dioxide, liquid solid ("Dry Ice") • **National Carbide:** Pipeline acetylene and calcium carbide • **Colton Chemical:** Polyvinyl acetates, alcohols and other resins.

Wardell in New Canco Post

American Can Co., New York, last month announced the appointment of James W. Wardell as general manager of the non-food container division of its general sales department. Formerly sales manager in charge of the Metropolitan New York sales district, Mr. Wardell succeeds William F. May, now manager of manufacturing for Canco's Central Division operations.

Mr. Wardell began his career at Canco in 1932 in the engraving department of the company's Brooklyn factory, and between 1935 and 1943 held posts in both the New York and Philadelphia sales offices.

After serving as executive officer of the Navy's Container Division during World War II, he returned to the company in 1946 and was assigned to Central Division sales offices in Chicago. He was appointed manager of the Kansas City regional sales office in 1948 and returned to Chicago in 1952 as commodity manager in charge of the division's non-food sales.

•

Breck Wins Market Award

John H. Breck, Inc., Springfield, Mass., manufacturer of shampoos and hair sprays, was recently presented with the "Key of Achievement" award by the Student Market Institute at the fourth annual Student Market Clinic in New York. The award was in recognition of the firm's "awareness of what young people want to see, hear or read before exercising their freedom of choice in America's free markets."

Breck was cited for its outstanding youth and educational advertising and promotion programs, which include education films, advertising in juvenile magazines, distribution of "Good Grooming" booklets, and other activities.

•

Penick Names Aromatics Head

Stephen G. Capkovitz has been appointed manager of the Perfume, Flavor and Aromatic Chemicals Division of S. B. Penick & Co., New York, it was announced early last month.

Mr. Capkovitz joined Penick in January as a special technical representative, having served previously as head of the Perfumery Division of the Colgate Palmolive Co., chief chemist of three Vick Chemical Co. subsidiaries (Prince Matchabelli, Inc., Seaforth, Inc., and Sofskin Co.); and chief chemist of Yardley of London.

S. B. Penick also announced the appointments of Edwin G. Allison as sales manager and James Burgess as assistant sales manager of the newly reorganized division. Penick recently purchased Dow Chemical Company's aromatic chemicals compounding unit, located in Jersey City, N. J., which has been consolidated into Penick's operation.

•

Plough Acquires Coppertone

Plough, Inc., recently acquired Coppertone Sales Corp., Miami, in an exchange of 77,632 shares of Plough common stock for all the outstanding stock of Coppertone and its manufacturing subsidiary, Douglas Laboratories Corp. The company will operate from its Miami offices as an affiliate of Plough. Charles E. Clowe, Coppertone president, became a vice-president of Plough.

•

Green Cross Reshuffles Staff

Green Cross Products, Montreal, a division of Sherwin-Williams Co. of Canada, Ltd., recently announced a number of changes in its sales and district staffs. J. K. Brown, general sales manager, was named assistant general manager; A. L. Havard, assistant general sales manager, became general sales manager; and E. W. Smye, Western district manager was appointed assistant general sales manager.

Brown

Havard

Succeeding Mr. Smye as Western district manager is E. S. Jonasson, former assistant district manager. He is succeeded in that post by E. Lindenbach, sales representative. K. W. Dash was named advertising manager.

Most of the above personnel have been associated with Green Cross Products since its formation in 1945.

Powr-Pak Names Sales Chief

Powr-Pak, Inc., Bridgeport, Conn., recently announced the appointment of Jerome S. Wittenberg to the post of national sales manager. He was formerly associated with Diversified Sales Associates, Newark, N.J., where he was director of marketing; and prior to that was national sales manager for Ar. Winarick, Inc. and vice-president in charge of sales for VCA Laboratories, Newark, N. J.

Mr. Wittenberg will function from the plant headquarters in Bridgeport and will be responsible for coordinating and supervising sales and sales promotion in an expansion of Powr-Pak's present operations.

•

To Add Starter to ICC Rules

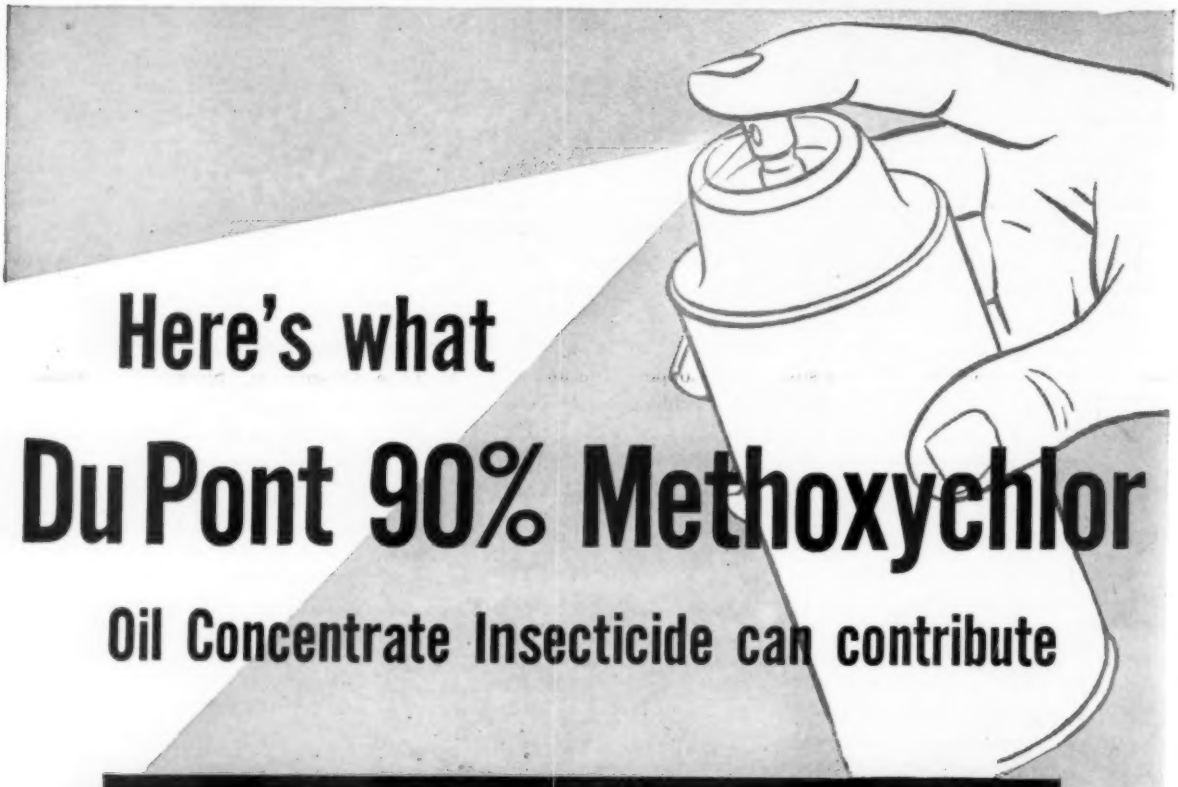
The Chemical Specialties Manufacturers Association, New York, last month reported that the Bureau of Explosives will shortly submit a recommendation for an addition to ICC regulations covering pressurized spray starters for engines. The recommendation, as quoted in a special CSMA bulletin, is as follows:

"Under the terms of an ICC Special Permit there has been successfully shipped 700,000 units of a spray starting fluid consisting of ether utilizing a nonflammable gas as a propellant in Specification ICC-2P inside metal containers packaged in Specification ICC-12B fiberboard boxes equipped with top and bottom pads or ICC Specification 15A, 15B, or 15C wooden boxes. This special permit authorized an absolute pressure in the container not exceeding 185 pounds per square inch at 130° F. and requires that one completed metal container filled for shipment out of each lot of 100 or less be heated until content reaches a minimum temperature of 130° F. without evidence of leakage, distortion, or other defect.

"In view of the fact that the above number of containers have been successfully shipped during a period of less than one year, it is my intention to recommend to the Interstate Commerce Commission that the following proposed amendment be included in the September docket:

> "Spray starting fluid. Spec. 2P. Inside metal containers packed in Spec. ICC-12B fiberboard boxes equipped with top and bottom pads or Spec. ICC-15A, 15B, or 15C wooden boxes. Pressure in the container must not exceed 185 pounds per square inch absolute at 130° F. One completed metal container filled for shipment out of each lot of 100 or less must be heated until content reaches a minimum temperature of 130° F. without evidence of leakage, distortion, or other defect."

Looking for improved middle and late knockdown for your budget aerosol insecticide?



Here's what

Du Pont 90% Methoxychlor

Oil Concentrate Insecticide can contribute

CSMA OFFICIAL AEROSOL TEST—LARGE GROUP

	Aerosol Test Knockdown			Aerosol Test Mortality
	5 min.	10 min.	15 min.	
Basic formula* containing 2% DDT	12	28	57	94
Same formula, but with 2% methoxychlor substituted for DDT	22	51	80	85
Official Test Aerosol	29	40	56	86

Note the great boost that methoxychlor gives to middle and late knockdown. It can do the same for your formula and at very low expense. Contact the district office nearest you.

*The basic formula is a widely sold, low-priced aerosol containing synergized allethrin, another KD agent, plus 2% DDT.

E. I. du Pont de Nemours & Co. (Inc.)
Grasselli Chemicals Department, Wilmington 98, Del.

San Francisco 4, California.....111 Sutter Street
Atlanta 8, Georgia.....739 West Peachtree Street
Minneapolis 2, Minnesota.....1207 Foshay Tower
Cleveland 14, Ohio.....1321 National City Bank Bldg.
Wynnewood (Philadelphia), Pa.....308 E. Lancaster Avenue
Houston 25, Texas.....1100 East Holcombe Blvd.

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Labeling Excesses Criticized

A serious objection to increasing trends toward detailed and explicit poison and antidote labeling of "almost everything that comes into the home" was voiced June 21 by S. L. Mayham, executive vice-president of the Toilet Goods Association in an address to The California Cosmetic Association meeting in Los Angeles. He charged that "When all household chemicals are marked 'poison,' no one will pay the slightest attention to the markings."

Mr. Mayham declared that present trends toward labeling may be really frightening people into living in fear of the most ordinary household chemicals. As proof of his contention that few people are really aware of ingredient labels, he challenged his audience to question the next 25 women they see whether a loaf of bread has the names of the ingredients on the label. "To save you the trouble," he said, "I'll tell you that I did ask 100 women the question and, as I recall it, only 12 of them knew it and not a single one claimed to have read them."

He urged the TGA and the California Cosmetic Association to offset bad thinking on the part of their members. He urged the undertaking of a program of doctor education with respect to the "cosmetic facts of life." "We cannot be protected against all the hazards of living," he concluded.

•

MM&R Appoints W. H. Lacey

Magnus, Mabee & Reynard, Inc., New York, essential oil manufacturer, has announced the appointment of W. H. Lacey as sales representative for Pennsylvania, southern New Jersey, Delaware, and the Eastern Shore of Maryland. He will work under Gordon Leech as a member of the firm's mid-Atlantic staff.

•

Shulton Aide Retires

Mrs. Tess Tinker, assistant to the president of Shulton, Inc., Clifton, N.J., retired in June. She was employed by the company since its founding in 1933. Mrs. Tinker was secretary to William L. Schultz for six years before he founded Shulton, and thus served the company and its founder for 30 years.

•

Fluid Names Executives

Fluid Chemical Co., Newark, N. J., recently announced the appointment of J. J. DeCarlo to the newly created post

DeCarlo

Marzane

of plant coordinator. He was previously director of purchases. Mr. DeCarlo will have over-all supervision of production, coordinating and planning the development of Fluid's new contract packaging facilities, and his chief responsibility will be to organize the firm's new aerosol filling lines.

Before joining Fluid Chemical, Mr. DeCarlo was assistant sales manager and contract administrator of Chatham Electronics.

To be the director of purchases the company had previously announced the appointment of Richard D. Marzane, who will also act as financial advisor to the company. Mr. Marzane had been vice-president of the Central Bank and Trust Co., Miami, Florida.

•

Announce Aerosol Contest

The Chemical Specialties Manufacturers Association's Aerosol Division Steering Committee announced last month that preliminary planning is underway for the 1957 aerosol packaging awards program. CSMA headquarters will shortly distribute a new list of product type categories and rules of the competition.

The competing packages will again be on display at the 44th annual meeting of the CSMA, and winners in each category will be announced during the convention.

•

Ex-Du Pont Aide Dies

Harold C. Haskell, former general counsel and a director of E. I. du Pont de Nemours & Co., Wilmington, died recently in Rockland, Me. He became director of the company's legal department in 1940, a director in 1941, and general counsel in 1950. He retired in 1953.

Colgate Names Mktg. Heads

Colgate-Palmolive Co., New York, recently announced the appointment of new marketing managers for its household products and toilet articles divisions. Thomas S. Carroll, formerly brand advertising manager was named marketing manager of the household division and will direct advertising, sales promotion, packaging, media, and all other aspects of marketing.

Irwin W. Hoff, who had been advertising manager, will assume similar duties in the toilet articles division. Previous to joining C-P in 1949 he was sales and advertising manager of Block Drug Co. and product director of Johnson & Johnson.

•

Swank to Enter Men's Market

Swank, Inc., New York, manufacturer of men's jewelry and leather goods, last month announced its entry into the men's toiletries market. According to Marshall Tulin, company president, Swank expects to be able to sell between $1 and $1.5 million of its new product line in the first year.

In August Swank will begin marketing shave lotion and cologne under the trade name "Men Prefer," and will later follow these with deodorants and other products, Mr. Tulin said.

•

Found New Cosmetic Firm

Visom, Inc., a new company that will manufacture and sell cosmetic preparations to beauty salons, was founded recently in Yonkers, N. Y. Heading the firm is Leonard J. Viola, who was director of research and development for Caryl Richard, Inc.; and previous to that was cosmetic research chemist at the Richard Hudnut Division of Warner-Lambert Pharmaceutical Corp.

According to Mr. Viola, production and sales plans call for the launching of a line that will be shown in the Fall at beauty salon shows. It will include permanent waving solutions, shampoos, and a group of products designed for "problem" hair.

Quality
AEROSOL FILLING

Esko welcomes inquiries from custom and private marketers regarding product development and custom and contract filling.

WE WILL FILL ONLY FOR CUSTOMERS AND MARKET NO LINE OF OUR OWN

It's our belief that the customer best can be served by our working exclusively for him.

Formulations which we have already developed can be made available to our clients.

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352 Livonia Ave.
Brooklyn, N. Y.
Phone: Dickens 2-5205

Bon Ami Names Shaw

John J. Shaw, sales promotion manager of The Bon Ami Co., New York, was recently appointed to the additional post of advertising manager. He joined Bon Ami as sales promotion manager in September after nine years in a similar position with Durkee Famous Foods. According to Harry S. Adams, executive vice-president, the new appointment is the concluding step in the reorganization of the company's marketing activities.

•

Dana Perfumes Revamp Sales

Dana Perfumes, Inc., and Dana Perfumes Corp., Chicago, have jointly announced the retirement of Paul Rowatt, president of Dana Perfumes, Inc. from active distribution of Dana products in the U. S. As of July 1 Dana Perfumes Corp. will handle sale and distribution of Dana perfumes and toiletries.

•

Machinery Exposition Planned

A total of 120 exhibiting companies, at a special meeting in New York recently, selected their exhibit space for the Packaging Machinery & Materials Exposition of 1958. The exposition is scheduled for March 25-28 in Atlantic City, N. J., and will be under the sponsorship of The Packaging Machinery Manufacturers Institute.

The space selection meeting was under the direction of Kenneth Hollidge, executive vice-president of the Arthur Colton Co. and chairman of the PMMI Exposition committee. Capsules containing company names were drawn from fish bowls representing each of the four exhibitor classifications, and as each company name was drawn the company representative selected the exhibit space desired by his company.

•

Shiftan Appointed Consultant

Ernest Shiftan, vice-president and chief perfumer of van Ameringen-Haebler, Inc., was recently appointed to the scientific committee of the German publication, *Parfumerie und Kosmetik*. He will serve as consultant and technical adviser in the evaluation of scientific advances and industry progress, particularly with respect to developments in the U. S.

•

Revlon Buys Schering Stock

Revlon, Inc., New York, recently reported that it has purchased 150,000 shares of the Schering Corp. stock "for investment purposes" to enter the ethical drug field. Price of the purchase is estimated to have been in the vicinity of $9 million, and the block is expected to give Revlon slightly less than 9% of Schering's common stock.

After the announcement Francis C. Brown, Schering president, declared that he opposes in principle any move to merge the firms, because of the differing product types they manufacture.

•

Magnus Elected Bank Trustee

Percy C. Magnus, president and a director of Magnus, Mabee & Reynard, Inc., New York., manufacturers of essential oils and perfumes, was recently elected a trustee of the Kings County Trust Co., Brooklyn.

—Convention Calendar—

Aerosol Symposium for Pharmaceutical Industry, *Philadelphia College of Pharmacy, Philadelphia*	August 20, 1957
International Symposium on Gas Chromatography, *Kellogg Center for Continuing Education, East Lansing, Michigan*	Aug. 28-30, 1957
Chemical Specialties Manufacturing Association, General Luncheon, *Commodore Hotel, New York, N. Y.*	Sept. 16, 1957
Chemical Specialties Manufacturers Association, *Hollywood Beach Hotel, Hollywood, Fla.*	Dec. 9-12, 1957
Packaging Machinery and Materials Exposition, *Atlantic City, N. J.*	March 25-28, 1958
Toilet Goods Association, *Poland Spring House, Poland, Me.*	June 25-29, 1958

Ungérer Expands in West

Ungerer & Co., New York, in a move to expand customer service on the West Coast, recently announced the appointment of Frank A. Murdock to direct sales in that area. A veteran of 16 years in the essential oil industry, Mr. Murdock spent the past six as Ungerer's San Francisco district manager.

To assist Mr. Murdock with customer relations and office management at the Los Angeles headquarters, the company named George MacDonald, who has been associated with the firm for 33 years. Ungerer also announced that service in the area will be further expanded by "provision of stocks of important items in Los Angeles."

•

Breck Honored by College

Edward J. Breck, president of John H. Breck, Inc., Springfield, Mass., was recently awarded an honorary degree of Doctor of Laws by St. Michael's College of Winoski, Vermont, at the institution's June commencement. Mr. Breck was saluted by the college's president for his diligence, business sagacity, and his efforts toward the civic and cultural benefit of Springfield.

•

Victor Industries Expands

Victor Industries, Inc., Newport, Ark., producers of aluminum cans, recently announced a multi-million dollar foreign expansion program. Plants are under construction in Venezuela, Toronto, Canada, and Mexico City.

To implement its overseas expansion, Victor has purchased the machinery, equipment, etc. of the Globe Collapsible Tube Corp., Long Island City, N. Y.

•

Bon Ami Ups Ad Program

The Bon Ami Co., New York, has announced that it is using national magazines to carry its advertising message on "Jet-Spray Bon Ami" to American housewives during the summer months. Copy emphasizing a new twist in housecleaning — waterless cleaning with "Jet-Spray Bon Ami"—is running in the July and August issues of *American Home, Good Housekeeping, Better Homes and Gardens, McCalls* and *Ladies' Home Journal.*

The company also announced that "Jet-Spray Bon Ami" has received the *McCall's* "Use-Tested tag," and the *Good Housekeeping* "Seal of Approval."

•

A-D-M Completes New Lab

Archer - Daniels - Midland recently completed a new paint laboratory at its Minneapolic research center. Included at the installation is a pressurized paint finishing room.

Valmy C-P Publicity Head

The Colgate-Palmolive Co., New York, recently announced the appointment of Spencer C. Valmy as head of the firm's new public relations department. He will be responsible for coordinating all public relations activities.

Mr. Valmy was formerly vice-president of The Ettinger Co., New York, and previous to that was national press relations manager for Shell Oil Co., New York.

Increase In Export Shipments Proves World Wide Preference For Mojonnier Aerosol Lines

Addition of Squibb S.p.A. Rome, Italy to the impressive roster of Mojonnier equipment users is further proof that throughout the world WISE BUYERS SELECT COMPLETE AEROSOL FILLING LINES BY MOJONNIER!

The high speed, double track Mojonnier Aerosol Line shown, is capable of both cold and pressure filling. Units in the line are: unscrambler, coder, air cleaner, insulated "Electromatic" concentrate filler, insulated "Electromatic" propellent filler, valve feeding station, valve crimper, "Pressurematic" pressure filler and drive unit. This line, engineered and built by Mojonnier, has a capacity of 60 large containers per minute and up to 120 on smaller sizes.

Mojonnier's exclusive add-a-unit design feature allowed each unit to be crated separately for shipment. Upon arrival at their destination in Rome, the units are merely coupled together to again form a Mojonnier engineered Aerosol line.

When in Rome, they are doing what careful American buyers are doing — buying Mojonnier Aerosol Filling Lines, complete in every detail. You should profit from this example and thoroughly check on Mojonnier equipment before you spend any money on machinery.

Having grown with the Aerosol Industry, the Mojonnier organization has developed equipment specifically for Aerosols rather than trying to convert existing machines for use on Aerosol products. This Aerosol engineering has resulted in filling lines that are more simple to operate and maintain, meaning more profits for you.

mojonnier associates, inc.

9151 FULLERTON AVENUE • FRANKLIN PARK, ILLINOIS • GLadstone 5-1013

Why sell your products by the ounce?

You can now combine the accepted convenience of aerosols with King Size packaging, and King Size packaging means volume sales in quantity and in dollars.

YOU CAN NOW INCREASE YOUR VOLUME WITH

TMC

55-75-132 CU. IN.

KING SIZE

AEROSOL CONTAINERS

Working Pressure 240 psi ICC Approved

You need no longer limit your sales with small 8 and 12 ounce cans that don't hold enough to do the job. Whether you are selling to household, commercial, institutional, industrial or other markets, you sell more and customers use more when you sell in bigger containers. Manufacturers like TMC King Size Pressure Containers . . . wholesalers like them . . . dealers like them . . . users like them! Whether you sell fluid, viscous or dry materials, TMC King Size disposable containers give you a challenging merchandising weapon worth looking into. Write or phone for "The Latest Thinking on Marketing Under Pressure!"

TMC **TUBE MANIFOLD**
CORPORATION

419 Bryant St. LUdlow 7900 N. Tonawanda, N. Y.

Who's Who in the Aerosol Industry

Winston H. Reed, Ph.D., is one of the founders and has been president of the Reed Research Corp., Shelton, Conn. since it was organized in Bridgeport two years ago as the Aerosol Process Co. He has directed the consulting and research services offered by the company to the aerosol industry on a contract basis. Under his direction the company has worked on projects for some of the major propellant, valve, and filling companies, and has also done developmental work on both civilian and military aerosol projects.

Dr. Reed received his B.S. in chemical engineering at Clarkson College in 1931, and his M.S. in physical chemistry from Cornell two years later. He took graduate courses after that at Western Reserve, Michigan, Minnesota, and Syracuse Universities, and in 1949 became a Carrier-Fellow at Virginia Polytechnic Institute. In 1951 he was awarded a Ph.D. in chemical engineering at VPI.

His work at VPI involved the study of refrigerants, and from 1951 to 1955 he was assistant chief chemist in research, Bridgeport Brass Co. He has also been on the chemical engineering faculties of Syracuse and Minnesota Universities and the Lawrence Institute of Technology, and has other industrial experience as a chemist and chemical engineer.

Dr. Reed is the holder of several patents and author of a number of publications on aerosol production, propellants, and refrigerants. His specialties in the field of research activity include thermodynamic

properties, flammability of aerosol propellants, azeotropic systems, phase rule applications, solubility and vapor pressure (composition relations of mixed fluorocarbon systems), aerosol formulations, bulk handling, and salvage recovery problems. He has also developed a number of special apparatuses and techniques for aerosol research.

Dr. Reed is a member of American Chemical Society, Bridgeport Engineering Society, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma XI, and the Chemists' Club of New York, and various technical committees of the Chemical Specialties Manufacturers Association, Inc.

Vincent De Feo, head of the aerosol testing laboratory of Dodge & Olcott, Inc., New York, is not only skilled in aerosol technique and perfuming work, but he is, as well, a graduate pharmacist with nine years of practical experience in that field. He expects to make good use of this experience during the next few years, when pharmaceuticals, one of the newest and most promising areas of development opening up in the field of aerosol packaging, really come into their own.

A graduate of the Brooklyn College of Pharmacy, with additional study at the Polytechnical Institute in Physical Chemistry, Mr. De Feo was a practising pharmacist until 1943, at which time he entered the perfume supply industry as a compounding chemist. His experience, therefore, includes both practical and research work.

He was one of the early researchers on the perfuming problems involved in aerosols, and also worked extensively with pharmaceutical preparations. His present work involves studies in all areas of perfumed aerosol testing and development.

Mr. De Feo is extremely active in industry organizations, and is currently treasurer of the Cosmetic Chemists Society (New York Chapter); a member of the American Pharmaceutical Association and the Scientific Committee of the CSMA, and is a senior member of the American Chemical Society. He is now engaged in the organization of an Eastern Section of the newly-formed Society of Pharmacists in Industry, which originated in St. Louis a few years ago.

NIMCO BRAND

FOR AEROSOL HAIR AND SHAVING PREPARATIONS, SHAMPOOS, PHARMACEUTICALS

ETHOXYLAN

An improved WATER and ALCOHOL SOLUBLE Lanolin Derivative

Here is a lanolin product that will give your preparations superior emollience in a large variety of applications at minimum cost, without lanolin's greasy effects.

ETHOXYLAN is available in two forms —check these advantages:

ETHOXYLAN 100

- Anhydrous solid—100% soluble in water; sufficiently soluble in alcohol as an additive to aerosol hair products.
- Compatible with standard propellants and film foaming materials.
- Will not clog or produce usual sticky film of lanolin.
- Imparts emollience, softness and lustre.
- Surface active; foam enhancer.
- Produces crystal clear solutions.
- Non-irritating.

ETHOXYLAN 50

50% active ingredient crystal clear aqueous solution.

Either way, you should check the benefits of ETHOXYLAN —write for BULLETIN and SUGGESTED APPLICATIONS.

N. I. MALMSTROM & CO.

America's Largest Processor of Wool Fat and Lanolin

147 Lombardy Street, Brooklyn 22, N. Y.

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R.I.T.A. CHEMICAL CORP.
612 N. Michigan Ave.,
Chicago 11, Ill.

FULLER ASSOCIATES
616 St. Clair Ave., N.E.,
Cleveland 14, Ohio

R. E. FLATOW & CO.
10 Madison Street,
Oakland 7, Calif.

R. E. FLATOW & CO.
15 No. Euclid Ave.,
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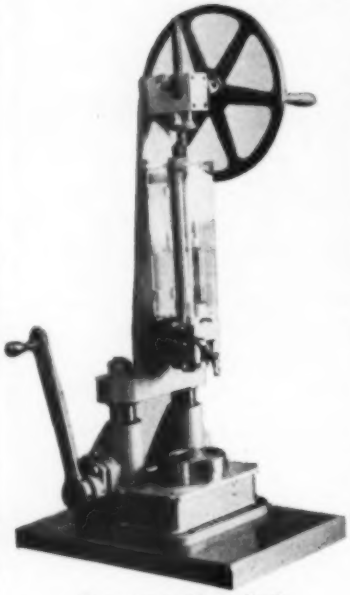
Our apparatus division has been set up to make all items available to the industry. Prices and descriptive literature on request.



Foresman Liquefied Gas Manipulator

APPARATUS AVAILABLE

Cont. Filling Corp. Clinch Torque Meter
Liquefied Gas Manipulator w/Universal Head
Propellant Manifold for Manipulator
Hand Operated Vial Capper
Change Parts for Vial Capper
One inch opening Can Closing Press
Hydrostatic Test Units
Karl Fischer Pressure Titration Cells
Dead Stop Indicator for Karl Fischer Titrameter
Density Units
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Can Sampling Units — Piercing or Valve Actuating
Pressure Gauging Unit — Pressure Balance or Water Filled
Flammability Set
Test Ovens — Standard or Custom Built
Instantaneous Chiller Units — Mechanically Refrigerated
Electric Hot Water Test Bath Standard or Custom Built
Hot Water Bath Transfer Baskets Safety Top
Tank Racks
Table Tank Rack Combinations
Safety Screen Tubes for Glass Pressure Tubes
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Apparatus Division
ROBERT A. FORESMAN, JR.
1690 Margaret Street
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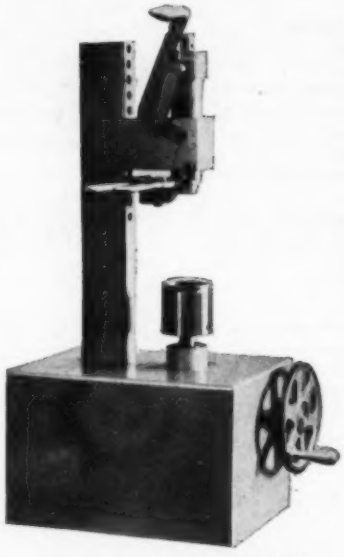

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Test your Aerosols!

Stainless steel Rex Table-Top chain, available in various widths for single or double lines of cans...and the cans are prevented from slipping on the incline and decline by magnets attached to the chain track. The tank itself may be constructed in hot dipped galvanized or stainless steel, and the unit serves as both a heat and leak test tank.

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Please send particulars on new HEAT and LEAK TEST TANK

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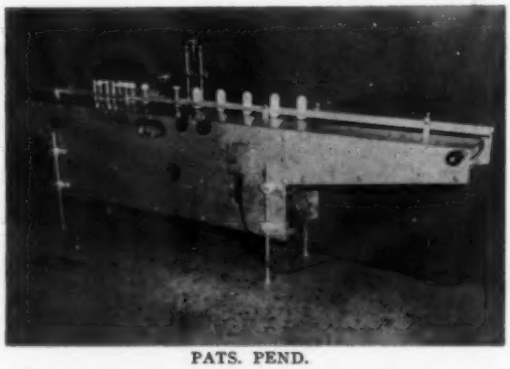
NAME.....

ADDRESS.....

CITY.....STATE.....

CODE DATING MACHINE FOR AEROSOL CANS

Will mark the top or bottom or both at the same time



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Kiwi® Coders Corporation announces a new power-driven machine for economically and automatically code dating the concave bottoms of pressurized cans or flat bottoms of other round containers. Can also be used as a work table for affixing parts to cans.

Send details on your specific marking problems.
Literature available on all types of applications

Kiwi® Coders Corporation

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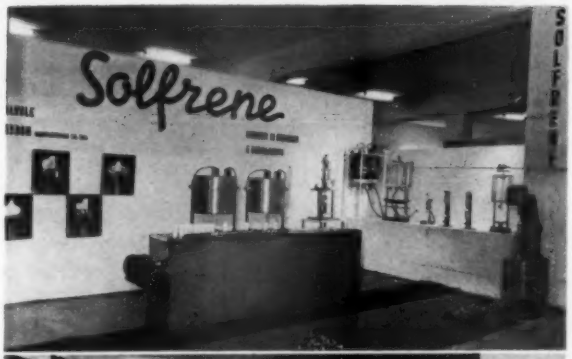
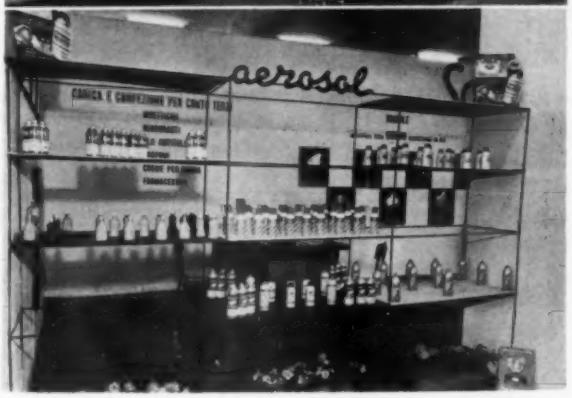
Solfrene Displays Wares at Milan Fair





Solfrene S. R. L., Milan, Italy, had one of the largest exhibits devoted to aerosols at the April International Fair in Milan. In addition to a wide variety of product types in aerosol packages, a complete filling plant and laboratory filling equipment were demonstrated. Solfrene manufactures aerosol valves under license agreement with Risdon Mfg. Co., Naugatuck, Conn.

Bon Ami Announces Contest

All expense paid trips to Paris, Monaco, and Rome are the top prizes in a special contest for grocery retailers and brokers announced by the Bon Ami Co., New York, last month. 15-day "millionaire" vacations for two will be the top awards in a contest to determine the most unique and spectacular Bon Ami and Jet-Spray Bon Ami store displays during the months of July and August. The company is also offering 100 additional prizes, including television and hi-fi radio-phonograph sets.

The contest, the latest in Bon Ami's program of incentive campaigns aimed at the point of purchase, will be judged by a panel that will rate photographs from all 48 states. Sept. 13th has been set as the deadline for the submission of all entries.

A New Pet Product

(*Continued from Page* 31)

the fleas as they passed under it on their way to the dog's head.

The owner of the idea, who had been selling only about 200 of the collars per year, was anxious to sell out, and Messrs. Nelson and MarElia went into business. They applied modern advertising and publicity techniques toward selling the new idea, and by the end of their first seven months in business, the company had grossed about $150,000. By the end of 1956 Guardian Industries was able to report a gross of $250,000, and this year, as a result of their aerosol product line, the company's sales are expected to exceed $1 million.

The company entered the aerosol field on more or less of a hit-and miss basis. They depended much on suppliers, (DuPont, Precision, Dodge & Olcott, and JG Machine — which supplied the filling equipment) and are full of praise for the information these suppliers furnished them.

On occasion, they went far astray. The company had no notion of the existing labeling regulations set up by the USDA for pesticides, and had the misfortune of having some of their early misbranded stock seized. These days, however, they are checking closely with the USDA on their present labelling claims and those for all future products.

The aerosol line is going over so well that Guardian is planning six other non-pet products by the end of 1957, plus six additional products next year. Though the nature of these products has yet to be announced, they will probably be general consumer type products.

Guardian's belief that, the more handsome the container, the more often will it be bought (and used), would if successful bear examination by others in the aerosol industry.★

Consultant's Corner

(*Continued from Page* 36)

and a piece of the broken bottle be propelled through the air. There are two factors to be considered in determining *relative* safety. One is the percentage of bottles which will break when dropped from a height than can be considered average. The other is the percentage of pieces which could be harmful from each bottle that is broken. These factors are not so much subject to prior mathematical analysis as they are to evaluation of experimental results. Even though the experimental results should be statistically analyzed, any final answer will of necessity be subjective, since conclusions or decisions as to what constitutes acceptable relative safety must, an any specific instance, be up to the individual or company concerned.

Aerosols Overseas

(*Continued from Page* 38)

two small states could sell only to their citizens and could not sell in Pennsylvania, New Jersey, or Virginia, adjoining states, nor to any other states of the union. They, also, would soon have a different idea of the term "market," and manufacturers in those states would as carefully

druk pak inc.

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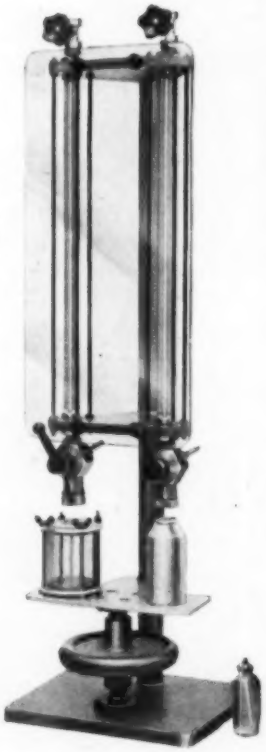
Supplying internationally for aerosols

- Laboratory Equipment
- Filling Machines (Cold and Pressure)
- Valves (Liquid and) Foam/Cans and Glass Bottles)
- Product Concentrates
- Laboratory Service
- Advice and Consultation



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All Products manufactured to our own Designs, Formulations and Patents. Valves available from Germany and Italy—Filling Machines from Germany—Laboratory Equipment and Concentrates from Switzerland.

Publishers of "European Aerosol Survey," a quarterly periodical

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consider "market conditions" as do those in Europe and overseas countries.

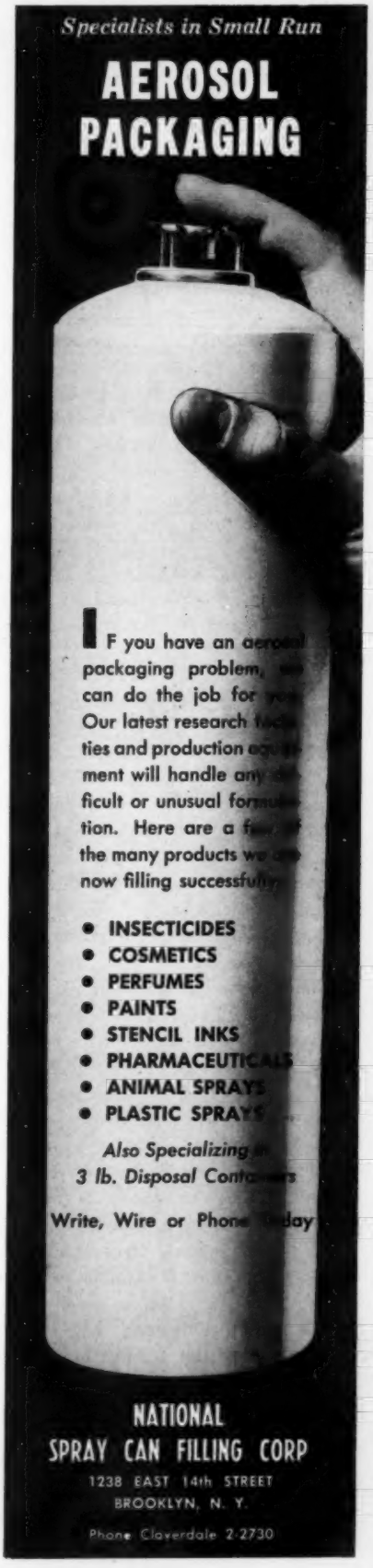
The less competition a European has in his "market," the better he likes it. The removal of competition is a practical matter to be handled rationally, not a "moral issue" as some in the U.S. would have it. For example, if a Los Angeles manufacturer had a market population only the size of Switzerland — and these populations *are* comparable — he would soon develop traits, characteristics and practices similar to those of his Swiss counterpart and his sense of risk would be just as restricted. Also, the European has a natural difficulty in relating price to volume. With a very small market and only a few million people to reach, it has not been his experience that lower prices stimulate demand to the point of producing lower costs on a larger turnover. So, why should he reduce his prices if the traffic will bear them? Better a good profit on a few sales than a small one on a problematical larger turnover to be reached by "cutting prices."

Out of these conditions emerges the European wholesaler and distributor who, with his established retail outlets, is in position to take over a manufacturer's production. The manufacturer likes it this way because he knows his distributing outlets will not upset market "conditions," assuring him at the same time his fair share of the total market demand. On the other hand, the jobber protects his retail outlet by a substantial mark-up. Indeed, everyone seems quite happy with the whole situation, which moves along smoothly enough until demand starts either to increase, or decrease. Increased demand means enlarging production facilities, which in turn reintroduces all the questions mentioned above. The new figures on U.S. aerosol production and the potentiality of an expanding market have upset quite a few European aerosol calculations.

In Germany, with about 10 million aerosol units in 1956, the industry is now talking about 20 million units by 1960-63. France wants to double her present 7 to 8 million in the next 5 years. The U.K. may move even faster. In addition, inquiries are now reaching the European market from such far-away places as Thailand, Ceylon, Paraguay, Cuba, Ecuador, Venezuela, Argentina, Mexico, South Africa, Nigeria, Czechoslovakia, Yugoslavia, etc., a good many not of sufficient size to justify any special engineering or consulting services. Most of the smaller countries want to begin with around 2,000 to 3,000 units per week which, of course, can only mean pressure filling. The larger countries are faced with other questions.

THESE new horizons bring a whole back-wash of problems at the supplier's level, principally in propellants and containers. Filling equipment and valve manufacturers can adjust themselves more readily to the increased demand, but years of prior planning are necessary in these other chemical and container fields. England, France, Germany and Italy each now have one propellant producer. With the present outlook, they will individually have to expand considerably or face competitive producers in their midst, for within a few years their facilities may not be adequate. At the start, the U.S. also had only one propellant producer, but now there are three with a fourth to enter the field in 1958.

The container question is probably the most difficult, since no one knows which way the trend will go, or what sizes will predominate. A German glass manufacturer has been dragging his feet for over a year (he would not venture an uncoated glass bottle), waiting for the plastic container development. If the plastic container is good, why should he invest in the necessary equipment to plastic-coat his glass bottles? In Holland, a can manufacturer sits between a steel and aluminum container. If he decides on steel, should it be a drawn steel can or seamed tin-plate? And what sizes should he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AEROSOL PACKAGING
IF you have an aerosol packaging problem, we can do the job for you. Our latest research facilities and production equipment will handle any difficult or unusual formulation. Here are a few of the many products we are now filling successfully
• INSECTICIDES
• COSMETICS
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• PAINTS
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tool up for? Is the 12-ounce container really on the wane — as some people read into U.S. 1956 production figures? Although U.S. experience is broad and its production annually increasing, pace and turnover are so great that such questions which confront and bother European and overseas producers are simply swallowed or taken in stride by their U.S. counter-parts.

Naturally, with such a host of problems to settle, decisions come hard and slowly. And they aren't made any easier by the prospect of the proposed European Common Market, which over the next 12 to 15 years would eliminate tariff barriers and custom duties among many European nations. This revolutionary treaty — a must for Europe's economic as well as political salvation — is already in effect for coal, iron one and most iron and steel products which now move duty-free across borders of the participating countries. Thus, tin-plate for aerosol and other containers pays no tariff from one country to the other, but under present regulations, the containers made from the imported tinplate, when shipped from one country to another, pay a heavy duty. With this duty removed, or perhaps gradually diminished over succeeding years as is proposed, manufacturers are currently faced with the problem of deciding whether and how much to invest in new equipment. Will their market really be enlarged, or will a competing manufacturer in another of the Treaty countries undersell them in their own market area? These are tough questions, ones we are glad we don't have ourselves.

However, one thing is certain: The problems will be resolved, facilities *are* being and *will* be expanded, and the market will grow. Those who hesitate too long are going to be left far behind.★

Strip Casting Aluminum

(*From Page* 24)

a conveyor. 50 horsepower or more is used to force cooling water through the machine, in order to chill the metal and to protect the thin steel belts. But two horsepower is more than enough to drive the belts, etc.

The process is patented by the Hazelett Strip-Casting Corp., Fairfield, Conn. Cost of the machine is under $60,000, with a current royalty rate on aluminum of $2.00 a ton. Machines are built by W. S. Rockwell Co. at Fairfield.★

Custom vs. Private Filling

(*From Page* 28)

Competition and the threat of customers installing their own filling lines have worked to keep prices down. The contractor has experience; can be selected for location; can be used as a warehouse; and considered as a group, is or will, of necessity be, capable of using any commercially available propellant, regardless of its character. Finally, high potential equipment obsolescence, characteristic of most relatively new processes, is a problem for anyone in the business, but one the marketer can avoid by subcontracting his filling requirements.

Still, it does not necessarily follow that the proper approach is invariably to subcontract aerosol filling. Just as there often is justification for a marketer to maintain tube and bottle filling equipment, there may also be justification for him to install aerosol filling equipment.

One of the prime advantages of owning your own filling equipment is in flexibility. Marketing and research ideas for new products and packaging can be economically pretested. Small quantities of special aerosol packages can be run with little inconvenience and on short notice. Assuming equal costs this advantage alone is considered justification for the expenditure. Despite the relatively low cost of contract filling, it is possible under some conditions to package your own aerosol at an equivalent cost with as little as three months running time per year. Any additional activity tends to drop filling costs below outside prices.

Except in the case of the very small manufacturer, the cost of operating an aerosol filling line can be pretty much absorbed in existing overhead. Aerosol filling is not so different from other filling operations, or the chemistry so foreign, that a manufacturer cannot utilize existing personnel and facilities in its operation. Indeed, he must become fairly sophisticated in the aerosol business to effectively deal with the contract filler.

He may find his distribution costs surprisingly low when combined with his other products — and, conversely, he may find them startlingly high if he relies heavily on drop shipments from the contractor's facility.

Quality control of not only the finished package, but also of its components may be more positive and consistent if the manufacturer handles it himself. Deficiencies, particularly in aesthetics, may be more often detected and readily controlled.

In addition, while service is a byword of the contract filler, it is good at times to be able to control scheduling of your own requirements.

A Summation of the Pros and Cons

by Pete Clapp
Vice-President
Western Filling Corp.
Los Angeles, Calif.

FEW true marketers have entered the aerosol field without utilizing custom filling. As the volume grows the question of independent filling attracts more management attention because of the money involved and the prospect for additional profit which is still a controversial subject. Since every situation has two viewpoints, let us sum up both sides.

Independent Filling Advantages as Seen by the Manufacturer

I. Lower costs; the primary reason for independent filling.

(A) Elimination of filler profit.

(B) Lower overhead because of existing production personnel.

PACKERS

The leading custom and contract fillers operating in your area are listed on the following pages.

EAST

AEROSOL PACKAGING

Small and large runs cosmetics, pharmaceuticals, insecticides, deodorants, specialties.

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If you have an aerosol packaging problem, we are set up to do the job for you. Here are a few of the many specialized products we are now filling successfully:

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- COSMETICS
- PERFUMES
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Exclusively private label manufacturer of aerosol cosmetics, pharmaceuticals and chemical specialties.

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- Contract Filling
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Here are the advantages of a modern manufacturing plant built upon a foundation of over 30 years experience:
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6. Free Products Liability Insurance.
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8. Our modern materials handling and shipping rooms can also handle your drop-shipments.

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We can do your
Cold or Pressure
CUSTOM FILLING . . BUT

equally important, as a long-time manufacturer of our own complete line of aerosols we can provide valuable marketing, merchandising and product development assistance. This "know-how" is part of our service which includes the most versatile and flexible aerosol plant in the country. We can easily and economically handle any type of spray, foam, residual or mechanical break-up product—in any quantity from 100 to 1,000,000. Write, wire or phone today!

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EVEREADY
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1101 BELT LINE ST. • CLEVELAND 9, OHIO

AIROSOL COMPANY, INC.
Inventor of the Low Pressure Process

Now offers custom filling for all types of aerosol products

In the geographical center of the U. S.

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PETERSON
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Contract Aerosol and Liquid Filling

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(C) Combined shipments with other product types; double handling and freight from filler eliminated.

II. Ease of setting up operation.
- (A) Integration of aerosol line, with existing production department (space and personnel).
- (B) Custom built aerosol lines available.
- (C) Laboratory already set up in most cases; quality requirements familiar.

III. Know-how — adequate for the job.
- (A) Equipment manufacturers will install and start up machinery.
- (B) Familiarity with operating custom fillers through past co-operating research and quality control studies.
- (C) Know-how of valve, chemical and can companies available.

IV. Quality is easier to control.
- (A) Personnel readily available.
- (B) Integrates readily into existing operations.

V. Miscellaneous.
- (A) Secrecy of formulation assured.
- (B) Self sufficient; cannot be bumped from outsiders production schedule.
- (C) Inadequate and inexperienced fillers avoided.
- (D) Many custom fillers are competitors.

Custom Filling Advantages as Seen by the Filler

I. Competitive, often lower costs.
- (A) Costs should be considered only on merits of percent return on invested capital. For independent operation, investment not otherwise required is floor space, equipment, raw material inventory, component part inventory and finished product inventory. Filler assumes all but finished product inventory which is reduced. Frequently, production departments slant costs in their favor, thus distorting picture for management to encourage independent filling.

(B) Filler profit and overhead very small on per unit basis because of very large quantity production. Significant—the larger the run, the lower a filler will quote.

(C) Bulk materials always available for large or small runs.

(D) Widespread facilities save much freight; fillers will warehouse and drop ship often at no extra charge direct to the ultimate point of sale.

(E) Lower costs often result from filler suggestions on formulas.

(F) Losses less because of handling experience and volume.

(G) Lowering of insurance costs.

(H) Selling price of completed product is not primary consideration.

II. Versatile production facilities in operation.

(A) Excess capacity (about double) is required and available to handle the maximums and minimums of seasonal sales demands.

(B) Custom filler geared for changes in container design, valve design and various bulk product hazards (pressure equipment, flammability and toxicity). Marketer is not burdened with limited or outdated equipment resulting from technical advancement; is free to develop all types of products for manufacturing.

(C) Fire or accident cannot interfere seriously with marketing of aerosols or manufacturing of other products produced under the same roof.

III. Know-how—the forté of the custom filler.

(A) Experience accrued over ten year period. There is no substitute for experience.

(B) Familiarity with all product types aids overall operation.

(C) Product development knowledge valuable, making possible shorter formulation time, improvement of existing formulations and production techniques.

MIDWEST

Symbol of Experience in Aerosol Development & Packaging

for Aerosol "Know-How" Call

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THE LENK COMPANY

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PRIVATE LABEL AEROSOLS

Leadership earned through outstanding aerosol research laboratories . . . creative product development . . . meticulous quality control . . . effective production economies. G. Barr & Co. markets no products of its own.

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3601 So. Racine Ave., Chicago 9, Ill.

AEROSOL PACKAGING *to fit* YOUR PRODUCT

• No minimum run required and no maximum limit! Rigid quality control is maintained on all production, contract filling or custom packaging.

CHASE PRODUCTS CO.

Maywood, Illinois

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Specializing in

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Enamels - Lacquers
Wrinkle and Hammertone Finish
Custom Filling
or
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Manufacturing Chemists

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The west's oldest and most experienced aerosol fillers

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WAREHOUSING — SHIPPING
COLD & PRESSURE FILLING

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PAR INDUSTRIES, INC.

2193 E. 14th ST., LOS ANGELES, CALIF.

CALIFORNIA'S LARGEST AEROSOL FILLER

Compare our

★ PRICES
★ QUALITY

and CONFIDENTIAL SERVICE

WESTERN

FILLS *ALL* PRODUCTS

WESTERN FILLING CORPORATION

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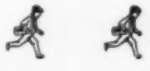
Are you missing a big Opportunity?



Your advertisement in this space will be widely seen throughout the packaging, cosmetic, food, pharmaceutical, paint and insecticides industries.

(D) New ideas and products often presented to marketers by fillers; more are made possible by diversification of latter coupled with a sincere desire to aid their customers.

(E) Patent assistance often available from long experience. A filler today may hold key to recent major patent dispute.

IV. Higher quality is assured.

(A) Merchandiser can demand stringent quality, and get it. With independent filling, sales demands may dictate production quotas at expense of quality since facilities must be utilized.

V. Miscellaneous.

(A) Filler is in reality silent partner of customer and will of necessity respect secrets while filling for any given concern. In addition, formulas can be concentrated and coded. Remember formulas can be analysed and broken down if desired.

(B) Fillers must have volume and maintain satisfied customers to survive as such; only an impossible situation could cause a filler to bump a customer from a promised scheduled. The large marketer cannot be dependent on one filler only and is thus protected.

(C) Many custom fillers engage *only* in the business of custom filling, thus eliminating direct competition.

(D) Marketing management face the difficult and trying task of selling and satisfying the consumer. Additional worries of production help drag him down.

(E) Custom fillers carry product liability insurance, giving customer double protection.

(F) The company that elects to pack its own must really be prepared to literally go it alone. Other suppliers such as can companies, valve manufacturers and chemical companies naturally tend to favor the custom loader since he covers the field more broadly. These suppliers are in a position similar to the filler and if one company grows large enough, he may also elect to make his own containers, valves, and volume chemicals. After all, he would be his own best customer.

In view of the above, the writer cannot legitimately arrive at a true formula which would state: If a manufacturer is having a given number of units packed per year, it will pay him a profitable return on invested capital to package his own. This statement is facetious because there are too many variables (commonly overlooked) which can lead to this false conclusion.★

Measuring Particle Size

(*From Page* 21)

$$\frac{SD}{2\Pi rR} = \text{Grams}$$

S — Slit width at circumference in cm.
D — Delivery rate of valve in grams per second.
R — Rate of revolution of disc in revolutions per second.
r — radius of disc in centimeters (14.5 cm.)

The disc must revolve slowly enough so that it is possible to depress and release the aerosol valve before the slot in the disc has made a second revolution in front of the spray. A small slit width and high rate of revolution permit only a small amount of spray to pass, while a large slit width and slow rate of revolution permit a large amount of spray to pass.

Patterns made from aerosols containing only fast drying solvents can be kept indefinitely and serve as a permanent record, whereas patterns made from aerosols containing oils or solvents which dry slowly change with time and must be photographed for a permanent record. The slow or non-drying oil with dissolved dye gradually spreads in the paper, thereby distorting the pattern obtained.

This spray pattern technique is particularly useful for comparing spray characteristics obtained with different valves, actuators and formulations. The method is rapid, easily done, and can be visually evaluated.★

Aerosols in Great Britain

(*From Page* 15)

carbons is of great disadvantage, and experiments are constantly in progress to find cheaper propellant mixtures. Odorless butane, propane, pentane and methylene chloride are being considered. There are two British suppliers of odorless or unstenched butane and two of the British contract packers have the special installation specified by H.M. Inspector of Factories which permits the handling and filling of butane. Pressure filling is invariably employed for butane.

Research

The manner in which research is carried out appears to be one of the salient differences between the aerosol industries of Great Britain and the U. S. A. As far as can be judged, in the United States the major part of the research on the problems met with in aerosol packaging is carried out by the propellant manufacturers and to a lesser extent by the suppliers of the various ingredients, such as insecticides, resins, etc. In Great Britain, however, the propellant manufacturers do not concern themselves with the problems met with in aerosol formulation. It is rather left to The Metal Box Co. and to some of the contract fillers to carry out not only fundamental research work, but also the evaluation of formulations, containers, valves, etc. Some of the leading perfumery houses fortunately recognized the necessity of testing their compositions under aerosol conditions at an early stage, and the greater part of the cosmetic aerosol formulations are developed in cooperation with them.

It is hoped that this brief resume of the British aerosol industry will clearly indicate that even if sales figures are relatively small, forceful development is taking place in all directions, and that in one or two instances the British industry leads the world.★

New Aerosol Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication.

Complete copies of these patents may be obtained by writing to the publisher of this magazine, Aerosol Publications, Box 31, Caldwell, N. J., and remitting 50c for each copy desired. For orders received outside of the United States the cost will be $1.00 per copy.

2,785,537. FREON FILLING METHOD AND APPARATUS. Patent issued March 1957 to Albert B. Mojonnier, Chicago, Ill.

In an apparatus for filling containers with a measured quantity of liquefied gas comprising, a pressure filler including a measuring cylinder and means including a piston in the cylinder for intermittently dispensing aselectively variable quantity of liquid from the cylinder under pressure a pump for delivering the liquefied gas of liquid from the cylinder under pressure, greater than the vapor pressure of the liquefied gas at the ambient temperature to prevent expansion of the liquefied gas as it enters the filler, a fluid motor operatively connected to said pump to drive the latter, and means for applying fluid under a preselected pressure to the motor whereby the motor operates the pump until the pump discharge pressure bears a predetermined relation to the fluid pressure applied to the motor.

2,786,537. SELF- ENERGIZING FIRE EXTINGUISHER. Patent issued March 26, 1957 to Harold Wainess, Highland Park, Ill., assignor to Chem-Cor, Inc., Chicago, Ill.

A self energizing fire extinguisher device comprising a canister of relatively thin gauge sheet metal having a top and bottom wall closing off the ends thereof and adapted to contain a fire extinguishing chemical agent under pressure, a valve structure operable automatically to dispense said agent in the presence of fire comprising, an elongate, rigid hollow member slidably mounted in said bottom wall having the major length thereof on the interior of the canister and its forward end exterior of the canister and secured to said bottom wall by means of a low temperature melting solder,

2,794,451. METHOD AND APPARATUS FOR FILLING CONTAINERS WITH A MEASURED CHARGE. Patent issued June 4, 1957 to John Schmidt, Jenkintown, Pa., assignor to Crown Cork & Seal Co., Philadelphia, Pa., a corporation of New York.

The method of filling containers with a standard amount of liquid comprising the steps of: flowing the liquid into a reservoir, utilizing adjustable volume measuring chambers, successively filling the measuring chamber with liquid from the reservoir, flowing the liquid from successive measuring chambers into successive containers, continuously sensing the temperature of the liquid while filling successive containers, automatically increasing the volume of the measuring chambers when an increase in temperature is sensed and automatically decreasing the volume of the measuring chambers when a decrease in temperature in the liquid is sensed.

2,794,677. METHOD OF AND APPARATUS FOR SPRAYING. Patent issued June 4, 1957 to Gerardo Collardin, Koln-Ehrenfeld, and Felix Von Ruhlsing, Koln-Lindenthal, Germany, said Von Ruhling assignor to said Collardin.

The method of spraying which comprises ejecting a jet propellent gas having spray material entrained therein from a nozzle, guiding said jet through a guide space communicating with a supply of incombustible protective gas and inducing said protective gas into said guide space with said jet, and guiding said protective gas thus induced in two separate streams, one of which flows adjacent to said nozzle and the other of which flows adjacent to the periphery of said guide space.

2,794,455. CONTAINER FILLING MACHINE WITH MEANS TO CONTROL THE LEVEL OF FILL. Patent issued June 4, 1957 to Carl L. Day and Rudolph Breeback, Baltimore, Md., assignors to Crown Cork & Seal Co., Baltimore, a corporation of New York.

In a container filling machine, a filling head element, a container supporting element, said filling head element including a liquid flow nozzle and a container venting means arranged to be closed by the rise of liquid in the container, one of said elements including a member having a container engaging sealing face, said sealing face being capable of vertical movement over a substantial range with respect to said venting means, means to move said container supporting element vertically toward said filling head element, and means to control the vertical travel of

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said last named means to thereby vary the movement of the sealing face of said member with respect to said venting means within said range and the height of filling of the container.

2,795,293. Coalescing Fitting for Oil Aerosols. Patent issued June 11, 1957 to Arthur C. Allen, Chicago, assignor to Stewart-Warner Corp., Chicago, a corporation of Virginia.

A coalescing fitting for use in oil aerosol lubricating systems, comprising an elongated body having a bore extending through a substantial length thereof, and having an inlet passageway of less diameter than that of the bore, the bore having an inlet end and an outlet end, means to conduct an aerosol oil mist to the reduced diameter passageway, means for introducing air under pressure tangentially at substantially the juncture of the inlet passageway with the bore to cause high velocity swirling motion of the oil aerosol introduced into the bore through the inlet passageway, and means at the opposite end of the bore to make connection to a bearing for receiving oil coalesced throughout the length of the bore.

2,795,799. Automatic Activating Device for Aerosol Containers. Patent issued June 18, 1957 to Joseph Dickerman, Berwyn, Pa.

An atomizer control device for use with an aerosol deodorizer unit adapted to be mounted to a toilet bowl comprising, a housing, means for mounting said unit in said housing, said unit having a discharge valve projecting therefrom, a first member disposed in said housing, a second member telescopically slidably mounted in said first member, means operatively coacting with said second member and releasably contacting said discharge valve, said last mentioned means being capable upon partial separation of said second member from said first member to cause said valve to discharge a portion of the contents of said unit.

2,794,579. Aerosol Bomb Having Spaced Propellant and Dispensable Liquids. Patent issued June 4, 1957 to Edward J. McKernan, Algonquin, Ill., assignor to Seaquist Manufacturing Corp., Carey, Ill., a corporation of Delaware.

A closure for a paste tube having a neck provided with an externally threaded nozzle and said nozzle having assembly comprising normally closed valve means for dispensing said liquid, and a delivery tube connected to said valve means and extending approximately to the bottom of said container, an inner container in the first-mentioned container, propellent liquid in said inner container, said propellent liquid having a boiling point substantially below room temperature at atmospheric pressure, said inner container being attached to the delivery tube and having openings above the level of the first mentioned liquid, said openings connecting the interior of said inner container to the interior of said outer container, said openings accommodating flow of gas there-through and preventing flow of said liquids there-through.

2,796,295. Orifice Nebulizer. Patent issued June 18, 1957 to Bain L. McKinnon, Seattle, Wash.

A nebulizer for a liquid, comprising: a nebulizer body having a jet discharge opening at one end and a vapor outlet opening at the other end and a hand bulb connected to said jet discharge opening in free communication therewith, said body having partition means forming a small turbulence chamber over said jet discharge opening and forming a large primary chamber in the area of said vapor outlet opening, said partition means having a small intermediate orifice connecting said turbulence and primary chambers, means forming a reservoir in said body and forming a liquid passageway from the reservoir.

Trade Mark Applications

Applications for registration of the following trademarks were published in recent issues of the *Official Gazette* of the U. S. Patent Office. In not all cases are there strictly aerosol trademarks, however many of the products listed below come within the category of those for which a possible future use in aerosols is foreseen.

Confidence, in capitals, for body deodorants and body deodorant antiperspirants. Filed Aug. 6, 1956 by Olin Mathieson Chemical Corp., New York. First use reported Aug. 6, 1956.

Mintogrene, in solid capitals, for non-personal germicidal deodorant for use in deodorizing and disinfecting household, industrial, and other enclosures, and the contents thereof. Filed Aug. 8, 1956 by Tech Soap Manufacturing Co., Chicago, Ill., with first use July 1955.

Black Pearl, Silver Diamond, and White Sapphire, all in solid capitals for hair tinting and coloring preparations. All three filed Oct. 17, 1955 by Clairol Inc., Stamford, Conn., with first use claimed Oct. 11, 1955.

Valay, in capitals, for moth killers, preventives, deodorizers. Granted to Esquire Chemical Co., Downers Grove, Ill., filed June 15, 1956, with first use Oct. 15, 1939.

Johnson's, for chemical products for use as room fresheners and as household deodorants for use in the nursery. Filed Oct. 13, 1955 by Johnson & Johnson, New Brunswick, N. J. First use claimed Aug. 29, 1955.

Glenwood, in capitals, for aerosol antitarnish spray. Filed Jan. 8, 1957 by Glenwood Products Corp., West Englewood, N. J., with first use Sept. 27, 1956.

Velvet Love, for cologne and perfume, filed Oct. 16, 1956 by Fuller Products Co., d.b.a. J. E. McBrady & Co., Chicago, Ill. First use claimed Oct. 11, 1956.

CLASSIFIED ADVERTISING

Rates for classified advertisements are ten cents per word, $2.00 minimum, except those of individuals seeking employment which *Aerosol Age* will run without charge. Check must acompany all classified advertisements. Address all replies to Classified Advertisements with Box Number, care of *Aerosol Age*, Box 31, Caldwell, N. J. Closing date: tenth of month preceding month of issue.

MISCELLANEOUS

SNOW: I need 500 dozen workable snow. Any sizes. Address Box 136, c/o Aerosol Age.

Dermatological Perfume Study

A chemoderm study of "Dermatological Standardization of Perfumes" by Firmenich, Inc., New York, was a feature in the scientific exhibit of the Dermatological Section of the American Medical Association at the group's 106th annual meeting in New York recently. The exhibit showed the results of a seven and one-half year study of perfumery components to make ten reproducible standardized basic perfumes of low sensitizing index. These perfumes were tested on laboratory animals, on humans by repeated insult patch test methods.

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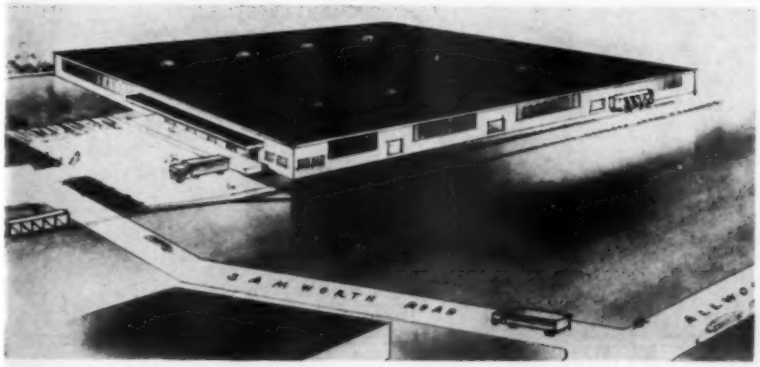
Lehn & Fink Lease New Warehouse in New Jersey

Lehn & Fink Products Corp., and Industrial Parks, Inc., last month signed an agreement for a long term lease on a new, one-story 55,000 square foot convertible warehouse. The building's design reportedly makes it one of the most versatile warehouse buildings in the country. Built to conform to modern warehouse design, with high ceiling, aisle space, fire protection devices and special interior lighting, it can be converted to a manufacturing plant simply by removing two-inch insulated panels in the upper sections of the walls and replacing them with steel sash and glass.

Lehn & Fink have already transferred their warehouse and distributing operations from their Newark and Bloomfield buildings, and have consolidated all their warehousing facilities for the East Coast in this new building.



Canco Names 2 in Sales

American Can Co., New York, recently named sales managers to head its Metropolitan New York and Maine sales districts. New manager of the New York district is Frederick D. Tower, who headed the company's Boston sales office for three years, before being assigned to the New York office last year. He succeeds James W. Wardell, who was previously appointed general manager of non-food container sales in the general sales department.

The Maine district office, with headquarters in Portland, will be headed by Robert C. Kinne.

•

CSMA Proceedings Available

Complete proceedings of the 43rd annual meeting of the Chemical Specialties Manufacturers Association, held last December in Washington, D. C., are now available in printed form.

Orders for the Proceedings, which include transcripts of papers presented before the Aerosol Division, at $7.50 per copy in the United States and Canada and $8.00 per copy in other foreign countries, may be directed to the Chemical Specialties Manufacturers Association, Inc., 50 East 41st Street, New York 17, N. Y.

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CSMA Lists N. Y. Tunnel Rule Changes

THE Chemical Specialties Manufacturers Association, New York, recently issued a copy of the regulations published by the Port of New York Authority tunnels. These include the Lincoln and Holland Tunnels, two of the major points of entry for truck traffic into New York, but do not apply to bridges and ferries to New York.

H. W. Hamilton, CSMA secretary, points out that aerosols containing flammable or combustible mixtures are limited, by the regulations, to 4000 pounds gross weight in any one truck load. He points out that "The Port Authority makes almost constant 'spot' checks of the manifest carried by motor trucks. Questionable loads are delayed, and prohibited loads turned back."

The regulations, dated June 7, 1957, (Amendment F to Supplement No. 1, Rules and Regulations Governing the Transportation of Explosives and Other Dangerous Articles Through Vehicular Tunnels Operated by the Port of New York Authority) read as follows:

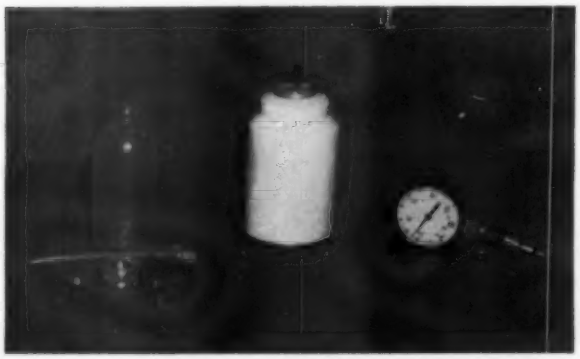
Change Section 16. COMPRESSED GASES, page 13 of Supplement No. 1 to read as follows:

Section 16. COMPRESSED GASES

(a) No vehicle shall enter any tunnel if its load shall include any flammable compressed gases (except Cyclopropane or Ethylene, or pressurized vessel containing a combustible or flammable mixture for which independent provisions are hereafter made), or non-flammable compressed gases which are poisonous or lachrymatory to human beings, or which have an irritating, asphyxiating or toxic effect on human beings when breathed in small concentrations, including those in the following list, unless such compressed gases shall be in a tube or cylinder two (2) inches or less in outside diameter and four (4) fluid ounces or less in capacity:

Acetylene
Anhydrous ammonia
Boron trifluoride
Butadiene, inhibited
Butane
Carbon monoxide
Chlorine
Coal gas
Compressed Flammable Gas, n.o.s.
Compressed Non-Flammable Gas, n.o.s. (irritating types)
Difluoroethane
Difluoromonochloroethane
Dimethyl ether
Ethane
Fluorine
Hydrobromic acid, anhydrous
Hydrocarbon gas
Hydrochloric acid, anhydrous
Hydrogen
Hydrogen bromide
Hydrogen chloride
Hydrogen sulfide
Isobutane
Isobutylene
Liquefied petroleum gas
Methane
Methyl chloride
Methyl mercaptan
Monochloroethylene
Monomethylamine
Propane
Propylene
Sulfur dioxide
Tetrafluoroethylene, inhibited
Trifluorochloroethylene
Trimethylamine, aqueous solution
Vinyl chloride, inhibited
Vinyl methyl ether, inhibited

(b) No vehicle shall enter any tunnel if its load shall include Cyclopropane or Ethylene which is not in tubes or cylinders eighteen (18) inches or less in length and four and one-half (4½) inches or less in otuside diameter, nor



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